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HOW AMAZON BUILT ITS VIDEOGAME DREAM TEAM



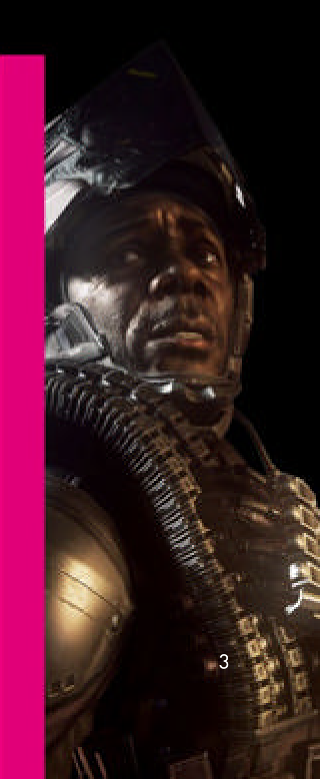
Sledgehammer's solution to cracking the nut that is COD



The *Call Of Duty* series began life 11 years ago as a PC game centred on World War II. Like many PC games of old, it had a somewhat restrained tone, exemplified in its loading-screen quotes from famed military types, which attempted to underscore the seriousness of this whole war business. In the years since, nine subsequent key instalments have seen *Call Of Duty* become a more bombastic beast, swelling in stature to become the biggest, most lucrative brand in the world of mainstream videogames. It has achieved a great deal, then, and yet until now a *Call Of Duty* has featured on the cover of **Edge** only in tribute form, to honour *Modern Warfare* at our 100th-issue and 20-year anniversaries. Against this backdrop, *Advanced Warfare* immediately feels out of the ordinary.

There is no question that this particular *Call Of Duty* throws up an unusually long list of things to talk about. First, there are its origins at Sledgehammer Games, a studio that contains many of the people who created the first – and best – *Dead Space* at Visceral Games, and who are convinced that one of the things they can deliver this time around is a coherent, meaningful storyline. Then there's the game's new facial animation system, powered by technology and techniques that will also be used in the production of James Cameron's Avatar 2. There is *Advanced Warfare*'s audio design, whose aim is to replicate not only the sound of letting loose with heavy firearms, but the torso-invading *feel* of it too. And there is Sledgehammer's broad goal for the game's visual appearance – photorealism – something it achieves in places thanks to a combination of its new rendering technology, an abundance of data sourced from the real world, and the application of its artists' expert hands.

Throw in a helping of Kevin Spacey and a boatload of warmongering hardware to fit the 2054 setting, and you have a *Call Of Duty* that feels like the next genuine step change for the ideas first mapped out in 2003. We dig into all of these topics, and more, in our cover story.

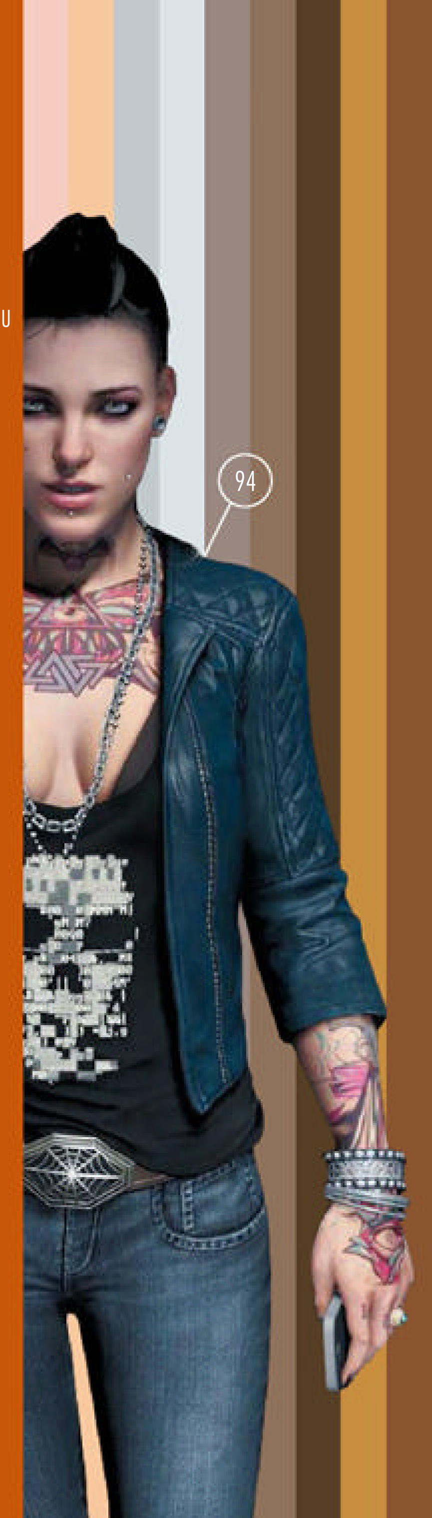


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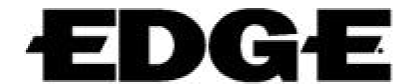
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Specialist Magazine Of The Year

Amazon primed

How Amazon Game Studios is planning to broaden out gaming's middle ground

Amazon has been in the game-making business for some time, but not so anyone would notice. In 2008, it bought *Wik And The Fable Of Souls* developer Reflexive and put the studio to work on games for Kindle tablets and the Amazon Appstore, firing out casual games such as *Airport Mania* and *Simplz: Zoo*. Amazon Game Studios' history had gone largely undocumented until February this year, with even a flurry of big-name hires in the summer of 2013 going unnoticed outside of the gaming community. The acquisition of Double Helix in February changed the studio's profile, however, revealing its intentions towards gaming's middle ground.

"I could name dozens of match-three and hidden-object games, and I'd only be hitting on a fraction of a per cent of the total catalogue," Amazon Games VP **Michael Frazzini** says. "And at the other end, we could go on for a while talking about the triple-A console catalogue. And those are great games, [but] we just think there's this big gap in the middle."

It's tough to pin down just how many people are working for Amazon Game Studios now – Amazon still talks like a retailer rather than a game publisher and is cagey on details – but certainly there are several studios spread across North America, with its homegrown one in Seattle and acquired studios Double Helix and Reflexive in Irvine and Lake Forest, California, respectively. A rough estimate suggests it has between 150 and 200 full-time developers, and all but the Lake Forest team and a few in Seattle are relatively new to the company. Until now, Reflexive has been the primary developer for the majority, if not all, of Amazon Game Studios' titles, including Fire TV launch game *Sev Zero*.

"[*Sev Zero* is] a mix of tower defence and a shooter," Frazzini says. "We had a really simple prototype, but beaming up and beaming down [around the battlefield] was just really fun. We really started to think about how we could push this device and what it's capable of. At that price point [$99], what can we do with the fidelity and the responsiveness of the gameplay? To deliver [*Sev Zero*] on a $99 streaming device, we feel really good about it."

Amazon's media box needs an additional $40 controller before it really enters microconsole territory, of course, but *Sev Zero* is free with the Fire TV gamepad. It's no killer app, and the task of launching hardware weighs heavy on its shoulders. To its credit, though, the studio has turned out a console-style thirdperson shooter with Kindle Fire co-op in under 12 months, and on a device still being refined during the game's creation.

Game development, Frazzini says, has been critical to Fire TV's evolution. "It's helpful to have very early game development pushing water through the pipes," he says. "Little stuff like how the drivers work and how you think about the various aspects of the operating system [can make a big difference], so you get the tremendous benefit of that feedback loop. One of the things [that's a result of that] is when we were talking about 1GB versus 2GB of RAM, we were able to show through *Sev Zero* that this is what you get at 1GB and this is what you get at 2GB, and we lobbied pretty hard. Game developers always want more

Michael Frazzini has worked for Amazon since 2004, graduating from product manager to director of Amazon Game Studios in 2009, and then to VP of Amazon Games in 2014





The Fire TV controller is similar in shape and build quality to an OnLive controller. It's a solid enough bit of hardware, but a far cry from the ergonomics of a DualShock 4 or Xbox One's hundred-million-dollar pad

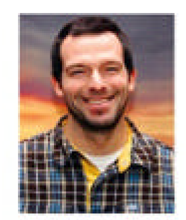
performance. A lot of the advanced effects and the fluidity of *Sev Zero* are made possible by the additional RAM.

"We apply a somewhat unique model to game development. At one end you have [small] games, and at the other you have these triple-A experiences. What we're starting to see is developers leaving publishers and starting companies that work in the middle a little bit more, which is what we're pursuing. It's where you have a team from between six to 30 people working anywhere from 12 to 18 months on a game, and those games have a tremendous amount of character and soul and craftsmanship and style, and I believe they can compete with any game, period. People on those teams really like that model because they're able to dramatically influence the direction of the game. In the end, what that means is unique and fresh and fun experiences. *Hearthstone: Heroes Of Warcraft*, I think, is a good example of that kind of game. Another would be Telltale Games' *The Walking Dead.* I think Fireproof's *The Room* is another great example of a game with style and character and [a degree of] immersion to it, too, and a great example of working in that middle space."

"We're trying to be inventors. This isn't about finding the model that's worked the best and repeating it"

This foray into the middle ground is going to be developed by a who's who of creative talent from across the industry. Amazon Game Studios' Seattle team has existed since at least 2011, but underwent a massive expansion last year, when the studio hired designer Ian Vogel (*Thief*, *BioShock*), producer Judith Hoffman (*Dungeons & Dragons Online*), artist Adam Bolton (*Bioshock Infinite*) and novelist Eric Nylund (Halo: The Fall Of Reach) among others, forming a carefully constructed team of development talent at Amazon's campus directed by former Microsoft Game Studios director David Luehmann. Kim Swift (*Portal*) followed in spring of 2014, along with designer Chris Roby (*Ghost Recon Phantoms*) and Clint Hocking (*Far Cry 2*). Double Helix and Reflexive's teams work out of Orange County, California, and were joined in April 2014 by *Tomb Raider*'s senior and technical designer, Jonathan Hamel.

"What we're doing, from a developer standpoint, is pretty enticing," Frazzini says. "If you have a conversation with anyone of any profile that's coming here to make games, [the rationale is] pretty straightforward: you can influence the platform; developers like the smaller teams, because the input they can have on an individual title is huge; and we're really trying to create experiences that are new and different. We're trying to be inventors. This isn't about trying to find the model that's worked the best and repeating it. We think we've hired some really talented people; they've built some of the best games ever released. And as you hire a few, you start to attract more and build up the teams that way." ▶


From top: Kim Swift, Clint Hocking and Jonathan Hamel are some of Amazon Game Studios' all-star lineup. What they are working on remains a mystery



Sev Zero **is Fire TV's flagship title, but it's no *Super Mario 64* or *Halo*, and it's not nearly enough to justify the price of the hardware. It will take a new game from Double Helix or Amazon's Seattle studio to draw players to Fire TV**



Frazzini's tenure at Amazon began in 2004, predating the gaming initiative by four years. Today he oversees the studios developing exclusively for Kindle Fire and Fire TV, and the Game Services division responsible for working with developers on analytics, Amazon's GameCircle achievement and leaderboard system, and its AppStream cloud services.

It's the cloud that will play a key role in the future of Amazon Game Studios' output. Frazzini: "Some of the future projects we're working on integrate fairly deeply with Amazon Web Services to bring experiences to massmarket and inexpensive devices that you would just otherwise never be able to do without the backing of the cloud."

It's a better explanation for the influx of creative talent than any purported desire to work in smaller teams on faster projects. Amazon can offer creative freedom and a considerable salary, but it can't yet offer the recognition and respect major developers and small independents can earn on established platforms. But Amazon Web Services is one of the world's largest cloud computing outfits, and a possible future for Amazon Game Studios' software is being streamed to every device with a screen via the cloud.

A possible future for Amazon Game Studios' software is being streamed to every device via the cloud

"We're here to build games from the ground up for Amazon devices: Fire TV and Kindle Fire tablets," Frazzini says. "And the studio – as we think about the types of games we want to build – we not only have the devices, we also have the Amazon cloud, and that's a really fun part of the development process."

Today, and in the coming months, Amazon's infrastructure will be put to work only for online game servers and – in the case of one game in its coming catalogue, Frazzini says – distributed computing to handle thousands of onscreen units, but the sheer size of Amazon Web Services places the company alongside Microsoft and considerably ahead of Sony in terms of cloud capabilities, and a Fire TV retails for $300 less than an Xbox One.

While other publishers are careful with their language, preferring 'gamers' to 'customers', Amazon Game Studios has been in the retail business for too long to change how it talks or conceal its motivations for moving into game development. "Games are a wonderful category for customers," Frazzini says. "Within Amazon's retail business, people buy a lot of games, and they are the number one or two category on every device with a screen in terms of time spent. Even if [people] aren't buying the device to play games, they often end up playing a lot more than they expected. Some customers will buy [Fire TV] because they want to watch Netflix, and they'll end up playing a lot of games."

Still, Frazzini promises a creative environment not weighed down by commercial considerations. "I think our [creative] guidelines are such that it's very broad," he says. "When developers and artists come to Amazon, they work on lean, agile development teams, which allows for more creative input and autonomy. At Amazon, we design, build and distribute our devices, and at the studio we build our games from the ground up for those devices. [Together with] Web Services, that makes Amazon a developer's sandbox that inspires invention. We're gonna make kids' games and core games, and the soul of each game will be driven by the people on that team. It's the best ideas that will resonate the most." ■

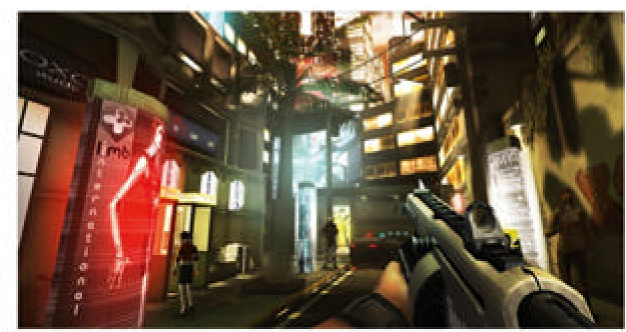


Fire TV's box is an unremarkable piece of minimalist design, but so inoffensive as to almost vanish alongside your other TV hardware, especially when placed beside heavyweight brutes such as an Xbox One or a PS4

HOLDING FIRE

How does Amazon's media/gaming box perform?





Amazon's Fire TV is a small, sleek, unobtrusive black slab that comes with a minimalist remote and has an optional $40 game controller. Once you get past the short, friendly and only slightly irritating opening tutorial, waiting for things becomes rare. Since Amazon pre-links your accounts with the hardware, all of your Amazon content appears instantly. Paging through big, colourful icons on horizontal rotators – familiarly grouped by categories and genres – feels silky, speedy and intuitive. The box is a very light sleeper, leaping wide awake as soon as you turn on your TV, which seals the overall impression that your content is waiting for you under the thinnest barrier, not buried in load screens. And Fire TV's voice search function, one of its key selling points, is just as alacritous – up to a point.

The most prominent button on the Bluetooth remote is alone at the top. Hold it down and a dialogue box springs open, saying that the device is "Listening…" Say anything, your mouth no more than eight inches away from the internal microphone, and then release the button. After thinking for just a moment, the device delivers accurate lists of relevantly tagged content, searchable by medium – so long as you're solely searching for Amazon products or Android apps, which are the only results voice search delivers. Flipping between the home and a running app feels friction-free, and some apps can run in the background of others. The unity of the system breaks down when you use apps such as Hulu and Netflix, where you have to sign in and search the old-fashioned way, with lots of typing and waiting.

At least the slender and softly curved remote makes that fairly easy, once you get over trying to point it like a Wii Remote. Below the microphone button is a large, shallowly springy action button surrounded by a four-direction click ring that you use to navigate through content grids or guide a tight, brisk cursor. Below that are two rows of small buttons: Back, Home and Menu, and then Rewind, Play/Pause and Fast-forward. Key commands such as Action and Back serve consistent, sensible functions across apps, with the exception of the Menu button, which seldom seems to do anything.

The optional controller is a boxy and inelegantly tank-like, but perfectly serviceable, 360 knockoff, adding a row of media-control buttons to a familiar layout. The controls have a high resistance that feels good in the analogue stick, OK in the buttons, and poor in the woefully stiff D-pad. The controller comes with *Sev Zero*, an Amazon exclusive that doesn't work with the remote, as many of the less casual games don't.

The controller is a boxy and inelegantly tank-like, but perfectly serviceable, 360 knockoff

Though Amazon has downplayed the significance of Fire TV's gaming aspect, calling it a bonus, its capabilities far outstrip its immediate competitors', with 2GB of internal RAM and a 1.7GHz quad-core CPU. *Sev Zero* itself is a mildly inventive thirdperson shooter mixed with a tower defence game. You quickly beam back and forth between the ground battle and the wireframe maps where you built your traps. After you select a tower to teleport to, you have a short time to move your spawn point away from it, damaging enemies you land on. In a neat touch, you can throw your game from a Kindle Fire or Android phone to your Fire TV with the flick of a finger. These twists make for a frenetic action-strategy game, if not one likely to become anyone's favourite, and it gets old after a few levels. But the production values are surprisingly high for what's essentially a service for playing Android games on your TV, and it works as a proof of concept.

Canabalt, *Sonic* ports, *Minecraft*, *Badland*, *Asphalt 8* and other Android favourites are all available. 8GB of internal storage sounds like a lot until you start installing some larger games, such as *Deus Ex: The Fall* or *The Bard's Tale*. But uninstalling a game leaves its icon in your list unless you also choose to remove it from the cloud, which makes it more convenient to manoeuvre around the storage limit. Heavy on ports and casual fare, the current selection includes highlights such as *The Walking Dead*, *The Cave* and *Prince Of Persia: The Shadow And The Flame*, but there's nothing to recommend playing them here over elsewhere. Dredging the bottom turns up some minor surprises, such as *Dark Incursion* (a *Rolling Thunder*-alike hampered by stiff controls), a *Double Dragon* remake trio, generic but fun action-RPG *Soulcraft*, and several Gojii hidden-object games. What's missing is much console-challenging entertainment – though the recent addition of three *Grand Theft Auto* titles (*III*, *Vice City* and *San Andreas*) is a hopeful sign – or the sense that Amazon has successfully courted the more ambitious indie developers. There are currently only a dozen titles listed in Fire TV's indie category, including the quirky *Quiet, Please*, action-puzzler *CLARC* and user-generated melee battler *Bit Brawlers*.

While Fire TV has multiplayer capability, only one player can use the remote or controller to play on the screen, so others have to join in via smartphone or tablet (Android or Kindle Fire, of course). This narrowness sums up Fire TV's limitations as a gaming console, although it still surpasses its closest Android-backed forerunner, Ouya, with more powerful hardware and a better controller. Still, it may also run aground unless future games can compete for screen time with console offerings. While it has decent media-streaming functionality, as a pure gaming machine it doesn't make a convincing argument for people to essentially play mobile games that are available elsewhere while stuck at home. The usual issues of transporting touchscreen mechanics to a TV persist, so more ambitious titles that use the gamepad exclusively are the best way forward. Otherwise, Fire TV will remain a microconsole for casual gamers and curious Netflix hoarders who don't mind rehashes and shovelware, with little to boost it over its similarly priced competitors.

Fire TV's store is full of older games, such as *Canabalt* and *Deus Ex: The Fall*. But Amazon's secretive development slate will have to impress as much as its voice search does to drown out its living-room competition





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Buried treasure

Filmmaker Zak Penn on Xbox Entertainment Studios' first major project: a documentary about digging up the past

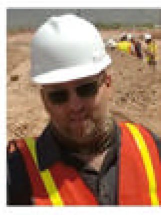
Screenwriter and director **Zak Penn** was on hand for the excavation of the Alamogordo landfill and the recovery of thousands of Atari 2600 cartridges buried there in 1983. Prior to the dig, the story had been well documented, but doubters – including *ET: The Extra-Terrestrial* creator Howard Scott Warshaw – had turned a matter of public record into urban legend. April's successful dig, which Warshaw also attended, will be the subject of the first major production from Xbox Entertainment Studios, available on Xbox One and 360 later this year. Here, Penn talks about working with Microsoft, the dig's impact on *ET*'s creator, and how garbage lives forever.

Why is this a story that needed telling?
I think the question is why people are reluctant to believe that a company threw garbage in a garbage dump. It's not a particularly extreme story, or at least it shouldn't be, but the question of why or how a story takes hold is a really interesting one, because there's not a clear answer. You don't have to go far to find some evidence that it actually happened, so why are people so compelled by this particular legend when there's plenty of evidence?

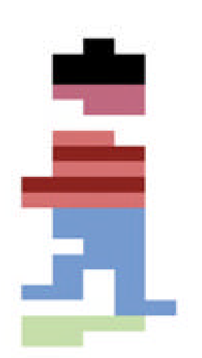
How much of the documentary is about the early-'80s industry crash itself?
That's a lot of what the documentary will be about. When you look back and take everything out of context, the whole story seems crazy, and the idea that maybe it never happened starts to make sense. Why would a company do this? How did they get to this place? How did it fail so quickly? Today it all sounds so excessive, but if you think about it, it's not that insane. The videogame industry was brand new and it was growing at an astronomical rate. Atari was a key part of the first Silicon Valley startup boom. I think it's easy to look back at it and say, "How come they couldn't see how dumb all of this was?" But a lot of it is hindsight.

How did Howard Scott Warshaw and James Heller, the man responsible for disposing of the excess carts and consoles in the first place, react to the successful dig?
For Howard and for Jim, it was two wildly different experiences. Jim was the guy who buried the games, and nobody had called him or talked to him about it in 30 years. One of the most exciting moments of the movie for us was when we found him; he had pictures he showed us. For Howard, it was a far more complex story, one the movie will tell well. The obvious issue here is that here's a guy who is clearly a genius; to program those games back then [was] not something anyone [could] do. I think for him there's a lot of conflicting emotion about it. I think it was pretty clear that people weren't there to rag on *ET*, and in fact I think Howard was overwhelmed by how much people loved the games that he made, including *ET*. There's all sorts of arguments about how good or bad *ET* actually is. It's not the worst game of all time, and if people don't believe me [then] they can come to my house and I'll put in a couple of games that are worse.

> "I think it's easy to look back at it and say, 'How come they couldn't see how dumb all of this was?'"


Director Zak Penn at the busy Alamogordo landfill, where dust made filming difficult and the smell lingered on skin and clothing for days after the dig

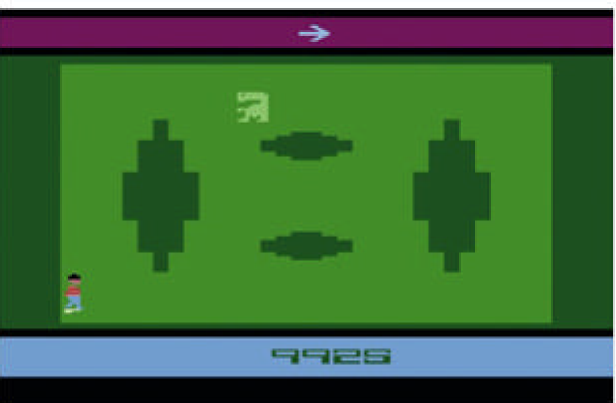




Is it especially interesting for you to be making this film expressly for distribution via Xbox consoles?
I don't sit there and think, 'I can't wait for this to show up on my Xbox.' It's not like, 'Hooray, I'm turning on my Xbox!' you know? Like most viewers, I don't care how it gets to me; I care about what I'm watching. For the most part, there is a bunch of smart people presenting me with a really cool project and the opportunity to do it. Not naming names, [but] there's a lot of time in Hollywood where you're working with something and you think, 'Wow, these are the wrong people to be making this type of programming.' When they love it, it matters; you've seen the results of that over the last 15 years with comic-book movies. It's always good when you know you're making something for the right outlet and the right people. I'm online a lot, I know what the people this is aimed at are like, and I know that I'm part of that fanbase. I know that, yeah, if this appeared on my Home screen on Xbox, I would click on it, because it would interest me.

Some of the cartridges that were dug up looked almost new. Have you tried plugging them into an Atari 2600 yet?
We have been working on it. I would say that I'm 99 per cent confident – certainly for the shrink-wrapped games like *Centipede* – that the chips inside those are totally playable. There are already conspiracy theories saying that it didn't really happen, and how can these games be in this good condition? Joe said something to me early on: people think when you throw something in a dump you're getting rid of it, when in fact you might be keeping it forever. Most of this garbage will outlive us. ■

Alamogordo's landfill is just a short trip from the site of the first explosion of an atomic bomb in the state of New Mexico. The dry desert has preserved the discarded cartridges and hardware, along with period newspapers









Emmy-winning producer Jonathan Chinn poses with the first cartridge pulled from the dusty landfill. A hundred fans turned out to observe the excavation, many bringing their own *ET: The Extra Terrestrial* carts to be signed by game creator Howard Scott Warshaw

WASTE NOT
Dredging up videogame history is serious business



Atari's waste was treated like any archeological find, Penn explains. "I thought they were joking when they said an archaeologist wants to come along, but these guys weren't kidding. They're archaeologists who do stuff for the Smithsonian and they approached it in this very serious way… If you dig up a ten-thousand-year-old arrow head you'd try and figure out if it was stuck in the side of an animal, who fired it, [and] where did they live? That's what these guys were doing." After the carts were recovered they were held and indexed by the city of Alamogordo; as with any treasure haul, the landowner takes a cut.

Community matters

Stoic's legal battle with King is over, but it might still be going if it weren't for a little help from its fans

Back in April, Stoic won a landmark victory. It was a fight the three-man studio couldn't afford to lose, but after almost a year of turmoil, the legal dispute in which it had been embroiled fizzled away so quietly that you may not even have noticed. With a few lines of text, the Texas-based indie announced that the legal machinery of King.com – the monolith behind *Candy Crush Saga* – had been halted, ending its trademark action against Stoic's *The Banner Saga* over its 'deceptively similar' title.

It didn't do it alone. As Stoic programmer **John Watson** puts it: "Public awareness made it so that three guys in a shack making a game were in a superior tactical position to a five-billion-dollar company with global reach… But that only happened because of the public."

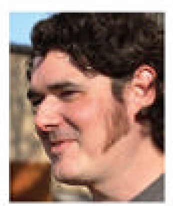
In the US legal system, where money can buy a lot of expensive stalling time, that kind of support is priceless. Watson himself is realistic about indies' chances without help. "They're screwed. Usually a big company that has a lot of resources can simply bully you into doing whatever they want, because they can outspend you. They come to you with this thing that they can't [enforce]. Technically, they're in a weaker position. The King objection – they couldn't win it."

"We would have won," interjects Stoic artist **Arnie Jorgensen**.

"If it went all the way through the procedure," says Watson, "they would have lost, but they would have bled us of tens or hundreds of thousands of dollars."

Stoic's plight caught the public's attention in late January 2014, despite the action having been filed in summer 2013, quickly becoming a lightning rod for support against a perceived culture of litigation. Many angry words were typed, but what really outraged a few was the sense of a big corporation steamrollering the little guy on a technicality. "It was just a matter of procedure for them," Watson says. "They didn't know anything about our project; they didn't care."





From top: Stoic artist Arnie Jorgensen; coder John Watson

HARD COPY

Clones are a real issue for app developers, and part of King's justification for protecting *Candy Crush Saga*, but they exist in a legal grey area. Should the law be doing more? "That's one of the great legal questions in the game industry right now," says Jas Purewal, "and opinion even among lawyers is as divided as it is among developers. In practice, quite a lot can be done legally to stop clones already, and in several cases those abilities have been used… However, legal claims can falter in the face of determined opposition from a developer or publisher who wants to fight a claim of cloning. Stronger laws might even the balance somewhat but they are unlikely to be a sufficient deterrent on their own."

It's a frustrating and frightening position to be put in, and corporate face-saving didn't help. "Their PR team put out a statement that said something like, 'Oh, no, we don't think *The Banner Saga* is in conflict with our thing at all. Their statement was completely in conflict with their legal action."

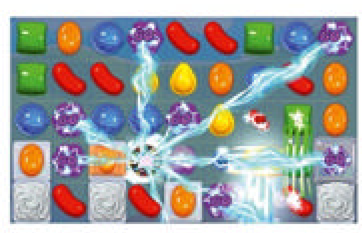
On its lawyer's advice, Stoic was going to let it go unchallenged, but Watson tells us a lunch meeting with "some pretty high-powered guys" in the industry convinced the team otherwise. Stoic's reply "was a bit snarky, but it was basically pointing out that their statement was bullshit".

> "We got a call from the head of King. He was very polite, consolatory and wanted to make it stop"

With King preparing to go public, it could ill afford the sustained negative publicity. "We got a call from the head of the company, from King. He was very polite, very consolatory and wanted to make it stop," says Watson. "We ended up working out an agreement with him."

"The cool story here for us," Jorgensen says, "was seeing the groundswell of people on the Internet. Had that not happened, we'd still be fighting this trademark dispute. No question."

The Stoic-King saga may have drawn to a close, but its legacy is important. After all, according to **Jas Purewal** of interactive entertainment law firm Purewal & Partners, while suits like this one are rare at present – at least by contrast to the film or tech industries – they may become less so: "As the industry continues to grow and mature, we can expect a natural increase in disputes between its members, and a minority of those will inevitably end up in full litigation".



King tried to trademark 'candy' to protect its hit, too, hoping to force a slew of clones off app stores

It's a natural outcome of the way the law works, says Purewal. "Where a trademark holder feels that his/her trademark is being infringed, they have no choice but to pursue that claim against the infringer or risk damaging their own legal rights. This is common in every other industry, too; it's not unique to games. However, the great majority of claims settle. Bethesda settled with Mojang over *Scrolls*, for example."

The King-Stoic saga, then, highlights a legal absurdity. While companies are obliged to fight over titles and dictionary words, the likes of Vlambeer seem near-powerless to stop blatant cloning of original ideas. But while that's unlikely to change soon, Stoic's win also provides hope. With a community behind them, even the smallest creatives can stand their ground, and few mediums attract such passionate crusaders as this one. ■



Few could countenance that the richly illustrated strategy of PC title *The Banner Saga* could ever be mistaken for a match-three game, and that's a salient point. To prevail in court, any lawsuit would have to prove that 'a reasonable person' would be confused



SHORE THING

Artist takes coin-ops to the beaches of Whitley Bay

Artist **Danny Passarella**'s hometown of Whitley Bay isn't what it once was. "Like many Victorian seaside resorts, it's suffered over the decades," he says. "The bars and pubs are now gone. The arcades are gone."

In his new exhibition, *OutRun*, *After Burner*, *Gauntlet* and other cabinets take centre stage in beautified versions of Whitley Bay locales. "I wanted to make sure I used machines people who just had a passing interest in videogames might recognise, [but] they also had to have the beautiful cabinet artwork," he says. "The concept of this project is that these machines have arrived and transformed the landscapes like the monolith from 2001."

You can see his work at Forge & Co on Shoreditch High St on July 25, or visit www.passarella.co.uk/fantasy. ■

Soundbytes

Game commentary in snack-sized mouthfuls



"This is gonna be an MMO where we want to put a billion people in VR. And a billion-person virtual world MMO is gonna require a bigger network than exists today."

Oculus CEO **Brendan Iribe** explains why he got friendly with Facebook



"We took the feedback we got last year to heart. I took it personally… We were reminded just how important it is to listen to our fans."

Microsoft's **Phil Spencer** on how his company lost touch and got taught a lesson in the social media age



"I'm not talking about a new console but, like, a watch. A gamified watch."

Atari isn't getting back into the console game, says the company's CEO, **Frederic Chesnais**, but that gamified timepiece doesn't sound especially likely either

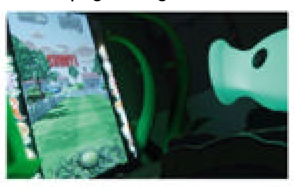
"People have been more satisfied with the Xbox 360 than the PS3, so in that respect people have less of a need to upgrade in the short term."



Xbox chief marketing and strategy officer **Yusuf Mehdi** works out a particularly positive spin for the sales gap between Xbox One and PS4

ARCADE WATCH

Keeping an eye on the coin-op gaming scene

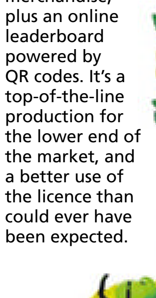


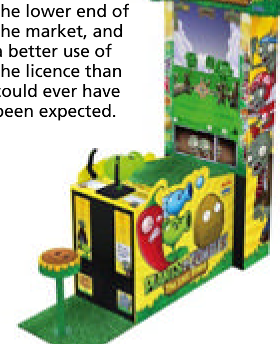
Game Plants Vs Zombies: The Last Stand
Manufacturer Sega

Video redemption games aren't usually as polished or complex as *Plants Vs Zombies: The Last Stand*. The point is to allow players to win tickets they can redeem for inexpensive prizes, which cost significantly less in cash value than was ever fed into the machine, and simplicity and player turnover is king in this space.

An arcade truism is that skill kills, but it's certainly the case for 'videmption' games. The balance comes in making players feel a game demands just enough skill that their input is necessary, and *The Last Stand* does just that, then dares to raise the skill ceiling to reward sharpshooters.

Standing tall in a massive bespoke cabinet, *The Last Stand*'s play sessions last longer and the demand for quick reflexes is higher than most, even if it is basic. It's a lightgun take on *Plants Vs Zombies*, with one lane and one Peashooter to fend off the advancing hordes. The game ends if the zombies cross your last line of defence, followed by the dispensing of tickets based on your survival time. Sega has even made a line of fuzzy *PVZ* merchandise, plus an online leaderboard powered by QR codes. It's a top-of-the-line production for the lower end of the market, and a better use of the licence than could ever have been expected.





My Favourite Game
Example

Rapper, producer and songwriter Elliot Gleave talks Sega's golden era, Wu-Tang's mortifying fighter and becoming invisible

Elliot Gleave isn't a name known to millions, but rapper Example is. Taking his name from his initials – eg, which stands for exempli gratia, or 'for example' – Gleave has released four albums, with a fifth due this year. Playing In The Shadows (2011) reached number one in the UK, but before his success, Gleave was raised on Nintendo and Sega.

What's your console of choice at home?
I've got the new PlayStation and Xbox One, but I've hardly been home at all recently. I've only been in the UK for about four months of the last year. I've been on tour so much, playing whatever's on the tour bus. There can be up to eight of us on there at a time, so the best games to play are *FIFA* and *Call Of Duty*. On some nights of our European tour we'd come off stage at midnight, get some pizza and some red wine or some local beer, and we'd turn on *Call Of Duty* [and play multiplayer] until 4am.

What's your golden age of gaming?
For me, it was all about the Sega Mega Drive. That's the first console that my dad bought me. Well, Santa got it for me, I suppose… I used to play on other consoles and computers at friends' houses – one had a Commodore 64; another, a NES with *Duck Hunt* and *Super Mario Bros*; and another had an Atari 2600. But my first was a Mega Drive, which came with *Altered Beast*. It had its charms, I suppose, but when I got the first *Sonic* game, that just became my life. I really liked the *Streets Of Rage* games, and the first two *Golden Axes*. *Road Rash* was amazing, too. So that's my golden age, but I don't know anyone who bought a Mega-CD. Actually, yes, I do: there was this one kid who had some money. Well, his parents had money.

WHAT HE MADE
Born Elliot Gleave in 1982, Example's introduction to the music industry proper came alongside Mike Skinner, who signed him to his The Beats label, under which he released his What We Made album in 2007. But Example's proper breakthrough would wait until 2009, when his song Watch The Sun Come Up broke the top 20. His trajectory's been an upward one ever since, with several of his own chart-topping records and a string of collaborations behind him. He also has a background in film, having studied directing at Royal Holloway, University Of London.



Mega-CD famously pushed interactive movies. With your film background, do you think that games can now deliver stories as effectively as movies?
When I think back to Mega-CD, those games looked just terrible. And whenever you played a game that had a proper voiceover, you felt like maybe there was just one guy doing a range of different roles because the budget was so small… I think the first *Resident Evil* changed things when it showed how games could take on a properly dramatic shape, with expanded stories that could be scary, too. But when you turn on a *Call Of Duty* today, you end up watching a film for ten minutes. If I'm playing a game like that, heavy on cutscenes, I tend to skip them after the first five or six if I'm not that invested in the story.

> "Altered Beast had its charms, I suppose, but when I got the first Sonic game, that just became my life"

What about, say, Hideo Kojima or Ken Levine – do you think they may one day be as recognised as Spielberg?
If you walk into a pub right now, more people will be talking about movies and music than games. At least in casual terms, just conversationally. I'd think maybe 90 per cent of people who play games have no idea who the director behind a particular title is, or who the lead designer is. I think that level of knowledge is the preserve of the minority, whereas I'd say more people would claim a decent knowledge of films. Players are interested in characters and in levels, but of course it's the designers and directors putting their personalities into those things. You buy into these brands through the characters you see onscreen.

Many musicians have appeared in games. Would you like to?
I remember seeing the *Def Jam* games, and wasn't there a Wu-Tang fighting game, too? [There was: *Wu-Tang: Taste The Pain*.] I recall it being shocking; they were aiming for something like *Tekken* or *Mortal Kombat*, but got nowhere near. As for being in a game myself, I did a launch event for *COD* a couple of years ago, and met some Infinity Ward people. They asked me to come see them next time I was in LA so I could do a voiceover. I thought they were joking, but then I'm in LA, and they're serious. Sadly, I had to fly to New York, so I couldn't do it, but I'd be into doing a voice for a game. I'd make a good Russian baddie.

You've played lots of games over the years, but what's your favourite?
GoldenEye 007. I played that game so much, alone and in multiplayer. I was the best at it among my friends. It had some amazing cheats. I managed to finish the Archives in less than one minute and 20 seconds, and gained invisibility. I beat it by one second. I couldn't believe it. ■



Example's fifth studio album, Live Life Living, is due for release on June 30, and includes recently released single Kids Again

WEBSITE
Shaun The Sheep's Game Academy
www.bit.ly/1hQ5JPe
Aardman, the UK studio behind Wallace and Gromit, has teamed up with social tech investor Nominet Trust to launch a competition that aims to get kids programming. Shaun The Sheep's Game Academy asks entrants to create a game in Scratch that stars Aardman characters. The studio has provided a suite of character art, backgrounds and effects to use, and hopefuls can submit something totally original or remix one of the studio's own Game Academy projects. The winner will get to visit Aardman's game team, and will also win a tour of the animation studios, a model-making session and the chance to watch their favourite film in Aardman's private cinema. The competition is split into under-13 and 13-and-over categories and the deadline for submissions is September 1.



VIDEO
A real game collection
www.bit.ly/1nAdooF
If you've ever poked around the game-collecting scene, you may know Joel Hopkins already. The Australian has what is claimed to be the world's biggest game collection – made up of console/computer titles alongside a galaxy of arcade cabinets – and he's been extending and remodelling his house extensively in an effort to contain it all. He finished the work recently, and has put together a quick video tour to show off the product of his labours. Watch it only if you can bear a serious case of collection envy – and if you want to get a glimpse of what Hopkins is planning next.

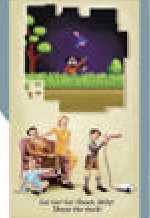
WEB GAME
Yojimbrawl
www.bit.ly/1p0wF6w
Free Live's samurai fighter *Yojimbrawl* is more deadly and elegant than a game jam product has any right to be. Health is represented by coloured dots floating above each fighter's head, and the defeated return from the grave slightly buffed with an extra dot of health. Combat is fast-paced – double tap to retreat or dash, juggle by launching into the air as you strike, and strike at the same time to deflect. It looks great, too, with shadowy swordsmen placed against an autumnal background. Given more polishing time, *Yojimbrawl* might just be able to go toe-to-toe with *Divekick*, but right now the framerate stutters and the camera loses players if they venture too close to the screen's edge. Still, given the 48 hours of development time it's had so far, this Ludum Dare entry is a fine distraction.

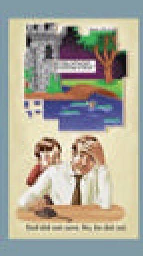


THIS MONTH ON EDGE

When we weren't doing everything else, we were thinking about stuff like this

ART PRINTS
PopZilla game illustrations
www.bit.ly/1p0AqZT
Heather Martinez is a director, writer and storyboard artist with credits that include SpongeBob SquarePants and The Replacements. She also, apparently, has fond memories of a more innocent age of videogames, and has produced three nostalgia-inducing 1950s-style illustrations of families playing *Duck Hunt*, *Joust* and *King's Quest*. Each one includes an image of the family with controllers in hand alongside Martinez's take on a screenshot. The prints, which were created for a videogame-themed art show curated by Orange County art collective PopZilla, are undoubtedly beautiful, but they'll set you back between $600 and $3,000. Better get saving.





continue

Dis-Kinect
The right price and zero gimmicks. Xbox One is better without Kinect

Game Boy is 25
We're aglow with a dim green light of nostalgic joy

PS4 update 1.70
Screengrabbing to USB storage is a game journalist's godsend

Go forth and play
32-year ban on arcade games lifts in Marshfield, Massachusetts. Phew

quit

Re-Kinect
No voice commands means Xbox One's deep UI is a headache

Power struggle
Standby modes will cost American players a billion dollars per year

38 problems
Rhode Island repays 38 Studios investors and taxpayers foot the bill

Virtual insanity
Zenimax sues Oculus, with John Carmack caught in the middle

TWEETS
No work I have ever done has been patented. Zenimax owns the code that I wrote, but they don't own VR
John Carmack, @ID_AA_Carmack
Oculus VR CTO

Ouya is just another example of the total disconnect between how much something is talked about in the industry and how much consumers care
Ben Cousins @BenjaminCousins
Independent free-to-play consultant

I was kind of hoping that a brain as creative as [Peter Molyneux's] might have been applied towards smashing the F2P shitwave rather than adding to it
Jeff Minter @llamasoft_ox
TxK *developer*



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NAUGHTY DOG



DISPATCHES JULY



Issue 267

Dialogue

Send your views, using 'Dialogue' as the subject line, to edge@futurenet.com. Our letter of the month wins an Ear Force PX4 or Atlas headset from Turtle Beach Inc





Turtle Beach's **Atlas** headset (RRP £119.99) is compatible with 360, Xbox One and PC setups

The age of entitlement

In **E**266, Nathan Brown argued that gamers feel they are being duped by publishers who release early demo footage that doesn't represent the quality of the final product. He also says that no company in its right mind would release footage of a game that it never intends to release, lest it lose its credibility and standing in the game industry, and therefore the gamers are wrong (I'm paraphrasing). I beg to differ. We all remember the lemon that was *Aliens: Colonial Marines* and the multiplayer and online issues that plagued *Battlefield 4* and *GTAV*. Also, yearly instalments of triple-A titles that offer no innovations in gameplay and the inclusion of singleplayer campaigns that seem to be little more than an afterthought is cause for concern. One could even argue that the launch of PS4 and Xbox One were not what gamers could reasonably expect, with overloaded servers making it difficult or even impossible to use their long-awaited prize right away. I think it's fair for gamers to be disappointed by this and be vocal about it.

The flip side is that publishers could become hesitant to release early footage. Case in point: *Watch Dogs*. After receiving backlash from the gaming community for delaying the game to make it better (something we should applaud, rather than disapprove of), the community is up in arms about Ubisoft supposedly failing to deliver on its promise with regards to graphical fidelity. The game isn't even out! Over-promising and under-delivering is worse than under-promising and over-delivering, but that wouldn't sit well with marketing.

The issue is that, in my opinion, gamers immediately feel entitled to receive everything that was 'promised' to them based on footage that was shown in the early stages of development, and that they disregard the most important thing: gameplay. I, for one, would rather play a great, engrossing game with a fluid framerate than a very pretty but crappy one. When I get sucked into a game, graphical fidelity is quickly relegated to second place. I love *Borderlands 2* because it's a great game, not because the graphics are pretty. I even played it on my PC in HD and then in 2560x1440, and all I noticed were some framerate hiccups, so I reset it to HD and it was better!
Rein Lohman

Precisely his point, Rein: the Internet is quick to react, and react extremely, to the difference between early footage and a stable, playable game. And while target renders and expensive CGI trailers are tools used, often questionably, to market games, no studio gains from wasting money on creating an entirely fake product it will never ship. Ultimately it's a call for more understanding on both sides, asking developers to promise only what they intend to deliver and consumers to talk with creators and be understanding of the realities of developing games that are great to play, not simply great to look at in screenshots.

> "Players misjudge difficulty by having one fixed approach, one idea about how they should play"

Bearer of the curse

I wrote in a few years ago about how I felt that I was ageing, and that my gaming had begun to suffer. I was playing games on easy and it made me feel ashamed. Yet my love for gaming hasn't waned. If anything, thanks to the glory of *Dark Souls* and *Dark Souls II*, it has deepened.

I grew up with a NES, and I remember the moment I beat *Mega Man 2*, the sense of achievement when the final bubble shot hit home. Having tried for years to do it, I felt a sense of loss when I'd achieved what I believed was impossible. I had the same



www.facebook.com/edgeonline
Discuss gaming topics with fellow **Edge** readers

sense when I beat the final boss of *Dark Souls II*. However, I wasn't alone this time. Glowing golden were my two aides, my two heroes. Without them, I would have struggled for weeks. But my mute guardians and I bested her together.

A lot of people talked about how voice chat would ruin the experience, but I have yet to come across any person who has spoken to me at all. The respectful bow when they've been summoned, the focus to help, and then the friendly wave, the bow, the grovelling prayers when success has been achieved: all the gestures stay with me. I remember the caster who helped me get past those blasted Ruin Sentinels, and the tank who smashed the Mirror Knight with me. I spent countless hours playing, but I still feel like I rushed it. So now I am onto New Game Plus, trying a wholly different style of play. Unlike *Mega Man 2*, which felt complete, *Dark Souls* truly is The House Of Leaves by Mark Z Danielewski – it's this ever-spiralling, groaning monster you can't comprehend completely. I want to go mete out justice on those who invade others, especially those Bell-abiding gits! I want to camp out there and smash them with my hammer!

I can't think of many games that have stayed with me as much as *Dark Souls*. I work in Old Street, near Shoreditch High Street station, and when the overground trains near my office brake, it sounds exactly like the spells cast in the Shrine Of Amana. Every time I hear it, my left finger twitches, bringing up a nonexistent magical shield to parry it. Every time I hear it, I am transported to Drangleic and its horrors, and it makes me smile.
Anand Modha

We get reflexive *Dark Souls II* flashbacks, too, although in our case it's thanks to a local newsagent who bears an eerie resemblance to Lenigrast, but who is unfortunately incapable of delivering any upgrades to our extensive sword collection.

Seek souls

When I first put a *Dark Souls* disc into the console, I couldn't possibly anticipate what to expect. That was around February 2012. After hearing some praise about the game and the pains that it caused players, I was curious to check it out. In spite of all the talk, I wasn't properly prepared to die. After a brief couple of hours, I dismissed it as impenetrable, overly punishing, frustrating and cheap. I approached it again some months later just to hit the wall of difficulty again and abandon it, presumably forever.

After the recent release of *Dark Souls II* this year, every day at work I heard my two colleagues doing their daily routine, where the morning "Hello" was quickly changed into, "Dude, yesterday in *Dark Souls*..." You can fill in the rest with enthusiastic tales of their misadventures that only rarely were silenced with self-restraint due to potential spoiler talk. For the *Dark Souls* laymen, such as myself, it was both tiring and kind of intriguing. So I decided to give the series one last chance, hoping for the 'third time's the charm' saying to be true. Now it seems that some (or all) of **Edge**'s editorial staff is still playing *Dark Souls*, my colleagues are playing *Dark Souls* and, yes, I am also still playing *Dark Souls*. I finished the first playthrough after sitting in front of the game for nearly 60 hours and loving every minute of it. Difficult? Impenetrable? Cheap? Oh, how wrong was I.

As it was pointed in the Post Script to the *Dark Souls II* review in **E**265, *Souls* games are actually not that difficult. I've played far more difficult games that at first sight look like kiddy stuff – I'm pointing at you, *Super Mario 3D World*! For me, *Dark Souls* is a game that essentially requires some patience and cold blood rather than twitchy reflexes. First and foremost, it challenges your greed rather than your skill: greed to end an opponent prematurely after a lucky opening with an ill-conceived blow, greed to 'save' health-replenishing Estus flasks for the next encounter, greed to traverse the fog and assault the boss without resting at a bonfire, which respawns all the nearby enemies. And the biggest sin of all, your greed in carelessly speedrunning through areas you've already ventured into to recover dropped souls. The game punishes you for this and that's why it appears to be difficult, while in truth the player can mostly only blame himself for seeing "You Died".

Discovering that was like a little revelation that allowed me to sink my teeth deep into the game. But it is a broader issue that comes down to gamers doing the same thing expecting a different result. Some might say that sounds like insanity. In *Dark Souls*, it's OK when you die ten times in a row trying out different tactics. But when you go for the 11th time with the same approach and die, it's time to take a step back and rethink your actions. Often players misjudge games' difficulty by having one fixed approach, one idea about how the game should be played. This is only supported by auxiliary systems pointing one direction, such as following the arrow on the HUD. This is not the case with *Dark Souls*, which is one of the rare gems that genuinely has faith in thinking players. This is the most forward-thinking design in recent years, because it's not afraid to empower its players with freedom.

Maybe the myth of *Souls* games' difficulty is not based on the lessons that the series wants to teach us, but on the lessons that we've already learned but then forgotten throughout years of exposure to videogame tutorials that ask us to "Jump, if you wish to jump".
Kamil Bazydło

Souls games play on how far you're willing to push your luck, and have little respect for the incautious, which has translated into a reputation for difficulty. But they're obtuse, and thus demand a thoughtful approach. Talking of thinking, work out which headset suits you best, and it'll be on its way. ■



STEVEN POOLE

Trigger Happy

Shoot first, ask questions later

One of the most satisfyingly surprising things that can happen in modern industrial art is when a cultural property reinvents itself in a different genre. The classic example is Alien, a horror film, becoming Aliens, a war film. (Prometheus is arguably the first true science-fiction film in the series.) The surprise – and potential satisfaction – of such genre-switching can be all the greater in videogames, because not only do videogame genres obey different narrative conventions (like genres in cinema and fiction), but they also work, and make us work, in mechanically incommensurable ways.

What's exciting about genre-switching is that there's really no way to tell in advance whether it will be successful. I doubt whether *Advance Wars* would work as a *Battlefield*-type FPS, but then when I first heard that *Metal Gear* was coming out as a turn-based PSP card game, I thought that sounded bonkers, too. As it turned out, the *Acid* games were brilliantly atmospheric, imbuing a genre in which I had less than zero interest with all the glamour of tactical espionage action, and none of the panicked controller fumbling with which I had so often led previous undeserving Snakes to their untimely dooms.

It seems possible Square Enix Montreal remembered how the *Acid* games had mastered the form of turn-based stealth when dreaming up the iOS puzzler *Hitman Go*. It's delightful to see Agent 47 reimagined as a gleaming figurine, ungesturing yet still darkly charismatic, gliding around to the accompaniment of mystery-jazz music through delectable levels reminiscent of cardboard architectural models of gardens and offices, mounted lovingly on wooden plinths.

Aesthetically, *Hitman Go* is arguably most interesting because of the nostalgia it represents. No longer a murder simulator like its predecessors, it's really a boardgame simulator. Indeed, the developers have said it began life as a physical boardgame. Even the stages are presented as boardgame boxes, with lovingly created fictional packaging.



Illustration marshdavies.com

> Hitman Go is notable as an exquisite symptom of the digital's nostalgia for the weighty, fingerable real

Curious, since once upon a time videogames could be thought of as an evolutionarily superior ludic stage to the boardgame: one where the board itself could change dynamically, and the computer took over all the mathematical drudgery. But *Hitman Go* is in many ways militantly, even comically, undynamic. The characters are deliberately unanimated, which does lend a lovely sculptural quality to the security guard posed in mid-run or the rich man in shorts forever frozen in the act of serving a tennis ball. And the way the usual graphic ultraviolence that Agent 47 sardonically practices on his targets is sublimed into the satisfying thonk of a piece simply being knocked over is a surprising and satisfying generic translation.

But this very amorous dedication to simulating a kind of assassin's Subbuteo is arguably what harms *Hitman Go* as a game. You can move only along predefined rails, and most levels end up being about pedantic counting, figuring out how you can lose a move by ambling back and forth.

Nonetheless, *Hitman Go* is still a very charming little diversion, and notable as an exquisite symptom of the digital's nostalgia for the weighty, fingerable real. On the one hand, computer interfaces since Windows Phone and iOS7 are fleeing skeuomorphism for minimalist flatness. On the other hand, videogames yearn for texture and solidity, as evinced in the proscenium-velvet mise-en-scène of *Puppeteer*, the arts-and-crafts aesthetic of *LittleBigPlanet*, or the beautiful experiment of *Tearaway*, which turns the screen itself into rippable paper. The difference is that we want frictionless efficiency from something like a calendar app – yes, delight too, but not the feeling that we are struggling with a machine. Contrarily, *The Room 2* is entirely predicated on the pleasure of struggling with a machine.

Games such as *The Room 2* or *Hitman Go*, you might say, are almost apologising for the lack of haptic purchase on a smooth touchscreen, and trying desperately to make us feel as though we are fingering solid objects all the same. It will be interesting to see whether this phenomenon – Meccano envy? Doll's-house envy? – persists in the form, to be perfected by some combination of force-feedback gloves and Facebook-sponsored VR helmet. After all, in the wake of a future eco-geddon where wood has become an enormously expensive luxury material, that will be the only way most of us will be able to experience it at all.

Steven Poole's Trigger Happy 2.0 is now available from Amazon. Visit him online at www.stevenpoole.net



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IAN BOGOST

Difficulty Switch

Hard game criticism

This year is Nintendo's 125th anniversary, and so the company is celebrating by haemorrhaging money. The figures are dour. Nintendo announced net losses of $229 million for fiscal year 2014, a saddening reversal of 2013's return to profit. Just 2.7 million Wii U units were sold last year, compared to 7 million PS4s and 5 million Xbox Ones shipped in half as much time.

In the wake of such news, gamers quickly become armchair financial analysts. In an endless stream of 'What can save Nintendo?' opinion pieces, predictable and conflicting ideas emerge: Nintendo should abandon hardware; it should embrace smartphones and the Internet. It should redouble efforts to exploit its most popular franchises; it should develop new franchises rather than relying on *Mario*, *Zelda* and *Pokémon*. It should hire more adept designers; it should focus only on the output of its star designer, Shigeru Miyamoto. It should give up on gimmicks like the Wii U gamepad; it should develop more distinctive hardware and peripherals. Then there's the perennial favourite, some variant of 'Nintendo should just stop sucking'.

It's a recurring theme for the company, which falls into ruts every few years, but eventually emerges victorious (so far at least). Not too long ago, 3DS was a fiasco, selling far below expectations despite its price drop. Before Wii's meteoric rise, Nintendo saw a 38 per cent drop in profits when GameCube sales missed forecasts by a factor of two. Every few years, foreboding prophecies of the company's imminent demise bubble up, mostly from gamers and industry pundits with little experience or expertise from which to draw credible conclusions about the company's financial plight.

It's time to set aside such hand-wringing and ask a more fundamental question: why do players and critics take such relish in lamenting and then 'solving' Nintendo's crises? What itch does this tradition scratch?

One part is that games are strongly connected to the technology industry, and the business of technology is now inextricable from its culture, for better or worse. By contrast – and with a few notable exceptions, such as Disney – the cultural impact of novels and films is derived from authors, actors and directors more than the holding companies that maintain IP or the publishers and production companies that bring them to market. But when it comes to tech, financial and cultural success are taken as equals. If anything, financial largesse might have overtaken or replaced aesthetic discernment.



Illustration marshdavies.com

We secretly want Nintendo to fail, so we can move on at long last. But then again, we desperately want it to persist

But for another part, Nintendo is not just any technology company, nor is it just any media company, nor even just any gaming company. It is the company that revived home console gaming from its premature death in North America and Europe after the crash of 1983. But in so doing, Nintendo recast games as children's playthings, a harmless distraction, a juvenile activity with colourful characters. In the west, Nintendo's safe, bright, clean look helped repair the image of games as an unseemly slum of low-quality home products and indecorous arcade shantytowns. If nothing else, Mario, Link and Kirby look wholesome.

But three decades later, even those who grew up on its systems and games are unsure how they feel about its legacy. It's no small group, either: the millennials whose first console was an NES or a SNES account for 25 per cent of the population. As the youngest enter adulthood and the oldest settle down, Nintendo represents a rusty, squeaky hinge on the threshold between past and future.

On the one hand, Nintendo embodies a common introduction to gaming, even an eponymous one. Its characters, its hardware, and the memories they bear are ones we treasure. We want them to persist like all good classics persist, partly to combat the encroachment of finitude growing older brings. Yet we also want to overcome our childhoods. We want to dispense with Mario, to forsake Link. But alternatives still ring hollow: Booker DeWitt and Samantha Greenbriar still haven't quite graduated games out of the twinges of young adulthood.

Nintendo's moments of crisis offer an excuse to act out this anxiety in public. We secretly want Nintendo to fail, so we can move on at long last, so we can get over it. But then again, we desperately want it to persist, so that we can cling to its familiarity and so we can bask in its comforts. We want Nintendo to live and we want it to die. And this is why we so relish the company's financial upheavals.

Ian Bogost is an author and game designer. His award-winning A Slow Year *is available at www.bit.ly/1eQalad*


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NATHAN BROWN

Big Picture Mode

Industry issues given the widescreen treatment

So long, Kinect. The new generation's whitest elephant is as good as dead, and I'm still not entirely sure who I feel the most sorry for. Is it the developers making games for it on the understanding there would be one in the box with every console? The early adopters who were sold a lemon on what always felt like a load of false promises? The beleaguered Microsoft PRs trying to put a positive spin on yet another humiliating policy change? Clearly, Xbox One's camera is far from the only casualty here.

Not that there aren't positives. Microsoft has clearly returned its focus to games. New Xbox division leader Phil Spencer seemingly has greater clout than his predecessor, Marc Whitten, and it appears that the new-look Xbox division itself will be less troubled by the needs and wants of other Microsoft departments. And the timing of it all suggests we're in for quite the E3.

The cheaper, Kinect-free Xbox One will be released on June 9 – the same day as Microsoft's conference. It launches, then, on the day on which, at E3s past, it would have been announced. Dropping Kinect ahead of time doesn't only suggest Microsoft is going to spend its E3 briefing focusing squarely on new games, it tells us much about how the conference itself has changed, too.

E3 was born as, and notionally remains, a trade show: a place where videogame makers and marketers gather to show their wares to press and retailers. Yet from the moment the first broadcast camera was set up at the back of a platform-holder press conference, that has been changing. Today, E3 is a consumer show that just happens to be attended by the trade – though given the number of people that wander the floor with swag bags dangling to their ankles, clearly a few enthusiasts still manage to wangle their way in.

Where a conference used to begin with a lengthy update on a console's sales performance, now it starts with a dubstep explosion. E3 is no longer about graphs, but graphics: the people up on stage aren't talking to a roomful of writers and retailers – the people who would be most excited by news of a Kinect-free Xbox One – but a live worldwide audience of millions of players. Over the years things have had to become slicker, more stage managed, and publishers and platform holders have struggled to adjust. Hence Mr Caffeine, that *Wii Music* drumming GIF, and Kaz Hirai's "*Ridge Racer*!"



Illustration marshdavies.com

No doubt Phil Spencer had to fight hard to kill Kinect as a packed-in requirement, but it was his most obvious target

Nintendo's struggled more than most, actually, from Iwata's PowerPoint mania in the Wii and DS era to Katsuya Eguchi's tortuous *Nintendo Land* presentation, Reggie Fils-Aime's smilingly intimidating sales pitches, and Cammie Dunaway in general. Little wonder, then, that Nintendo has decided to withdraw from the pomp and bombast of the biggest videogame show on Earth. It'll still be at E3 – with, as usual, one of the largest booths on the show floor – but there will be no press conference. In its place will be a special Nintendo Direct broadcast.

Certain corners of the Internet – corners that simply can't get enough of Geoff Keighley's PhotoShopped Doritos mitre and putting the words 'game journalism' in sarcastic single quotes – have taken this to mean that Nintendo is finally washing its hands of a press corps that has gone too far. Others see Nintendo admitting defeat, retreating from the console war frontlines. To me, this is Nintendo doing what it's always done, and innovating on its own terms, because it understands how E3 has changed. The goal – communicating with players – is the same, but the delivery mechanism is different. Why put on a lavish, costly stage show when you can put Satoru Iwata in a Kyoto boardroom with a camera and a bunch of bananas and achieve the same results?

I'm not about to add my voice to the tedious annual swell of those calling for the death of E3. It's a fantastic show, and this year's promises to be one for the ages – one, to borrow Sony's tagline, for the players. Nintendo facing what is probably its last shot at saving Wii U. Sony seeking to build on a remarkable 12 months and cement PS4's position as market leader. And Microsoft, with every criticised Xbox One policy sent to the grave, returning its gaze from services to software with a conference that should be packed full of big announcements. No doubt Spencer had to fight hard to kill Kinect as a packed-in requirement, but it was his biggest, most obvious target. Now things get tough. When he takes to Microsoft's stage on the morning of June 9, we'll find out what kind of big game hunter he really is.

Nathan Brown is **Edge***'s games editor, and is packing his favourite Doritos-branded swag bag for the trip to E3*

#268

H Y P E

THE GAMES IN OUR SIGHTS THIS MONTH



Explore the iPad edition of **Edge** for extra Hype content

Tried and tested

Resident Evil 4 was born in an explosion of innovation that redefined thirdperson shooters and survival horror, but almost a decade later those innovations have become a template even by its own creator can't escape. Shinji Mikami's *The Evil Within* (p34) is a slave to his own influence, but finds room for new ideas by blending *Resident Evil's* familiar combat with a focus on stealth and evasion that refreshes a reliable but stale genre.

When game budgets are in the tens – if not hundreds – of millions of dollars, it's good to have a safety net, and nothing is safer than familiarity. *EVE Valkyrie* (p38) is a grand virtual reality experiment anchored by a trusty old space shooter, and while the genre has been out of favour since the late '90s, it's well chosen. The early-adopter enthusiasts likely to buy a Rift headset are the same players who spent their teenage years playing *Wing Commander* and their 20s lobbying LucasArts for more *X-Wing Vs TIE Fighter*. If only a handful of players will own the hardware to play *Valkyrie*, CCP can at least rest assured that those who do will want its game.

Even the most obtuse innovation can be appealing when attached to something players understand. Double Fine's *Hack 'N' Slash* (p46) makes a game about programming palatable by wrapping it in Nintendo's bulletproof *Zelda* framework. Within the confines of the familiar, the game's conventionally repellant innovation becomes your boomerang or your bow – just another weapon in the adventurer's arsenal as you use real coding skills to reshape the world around you.

Being radical is brave, but the road to success is paved by the bodies of innovators, and trodden upon by developers savvy enough to weave their innovations into something comfortable. *Resident Evil 4* kickstarted a new generation of action-horror games, but it could never have subverted the genre without a decade of tried-and-tested successes in survival horror at its back.

MOST WANTED

Destiny 360, PS3, PS4, Xbox One
At last year's E3, it didn't take more than a few minutes of *Destiny* footage on Sony's stage to turn PlayStation fans who had spent a decade trashing *Halo* into Bungie zealots. From the world design to the originality of the online play, the game's appeal is impossible to ignore.

Just Cause 3 TBC
Avalanche might be occupied with *Mad Max* right now, but the recent registration of a *Just Cause 3* domain has raised hopes that we'll be surfing planes into buildings and tethering hapless enemies to explosive gas canisters again soon. The safe money's on an E3 reveal.

Far Cry 4 360, PC, PS3, PS4, Xbox One
Ubisoft's man-goes-mad-in-the-wilderness series heads to the Himalayas, where a despot has declared himself king. Ubisoft Montreal faces the challenge of blending the mechanical depth of *Far Cry 3* with a story, setting and atmosphere to rival 2.



HYPE

THE EVIL WITHIN

Evil is in residence once more as Mikami returns to the action-horror genre

Publisher Bethesda Softworks
Developer Tango Gameworks
Format 360, PC, PS3, PS4, Xbox One
Origin Japan
Release October 24



Castellanos is a protagonist in the Leon Kennedy mould, albeit with a costume ripped right out of the hardboiled rulebook. He looks as if he could be taking a breather from a strenuous Lindy Hop

An exploding head is just about the last thing you'd expect to feel comforting, but somehow *The Evil Within* manages to convey a deeply nostalgic assurance with every skull you burst. Plant a shell or two in an enemy's face and a warm, frothy spray of gore bubbles forth like the lemonade of childhood, coupled with a sound effect as crisp and ripe as the crunch of a summer apple. This kind of pleasurable association is fortunate for *The Evil Within*, because it has a long shadow hanging over it, and it's not the shade of the as-yet-unnamed malevolent force that serves as the game's antagonist. Rather, Shinji Mikami's latest bears an inescapable similarity to *Resident Evil 4*.

Not content with elevating headshots to an art form, containing a shopkeeper that spawned a thousand impressions, and having a lead with tremendous hair, *Resident Evil 4* set the template for the modern thirdperson shooter. It's one hell of an act to live up to, and of the few developers that haven't balked at the thought, almost all who have tried have failed. Mikami, however, following forays into schlock horror (*Shadows Of The Damned*), schlock sci-fi (*Vanquish*), and slapstick punching (*God Hand*), appears to have stopped fighting it and embraced his heritage.

The opening section of *The Evil Within*'s playable demo proudly displays that history, starting you off on the outskirts of a rural European hamlet. Corrupted villagers dump bodies onto a bonfire while you watch from a distance, waiting for your cue to march in and start shooting. Even the letterboxing is familiar. And, of course, when we score our first headshot, the resemblance becomes unmistakable – the bubbly crunch as you nailed another Ganado through his rustic Spanish hat is up there with the greats in terms of rewarding player feedback, and the equivalent here is every bit as satisfying as it was back in 2005.

This adherence to the *Resident Evil 4* template is about more than aesthetics, though. While dapper protagonist Sebastian Castellanos is a bit more mobile than Leon Kennedy and his aim is a little less shaky, he's just as capable in combat. On anything above the default difficulty, the demo's setpiece fights are precise and deadly. Your zombie-like opponents are the usual loose grouping of shambling, groaning foes, but this time come accessorised with crowns of barbed wire, glowing eyes, and embedded shards of broken glass. As with *The Evil Within*'s spiritual predecessors, enemies are closer to Romero-slow than 28 Days Later-fast, but their lethargy seems to be carefully calibrated. They're paced ponderously enough to be ▶



Shinji Mikami, creator and game director



ABOVE **The game's blood effects are lovingly crafted, taking in everything from gushing rivers that engulf entire corridors to blood squib effects that recall unrestrained '80s cinema.**
LEFT **Melee attacks are used purely to buy you time, with no roundhouse kicks to fall back on here – it's either shoot, run, hide, or die**





The setpiece traps are gloriously impractical, resembling theme park rides conceived by Clive Barker and implemented by sadists with an unlimited budget

threatening and inexorable, but not to the extent that lining up shots is trivial.

For all in *The Evil Within* that's familiar, there are some twists on the formula, too. The game frequently toys with psychological horror, unpredictably shifting location and warping the environment, and puts a savage garnish on its combat by introducing a drop and burn system, whereby temporarily knocked down enemies can be rendered permanently out of action by setting them on fire. It's jarring, however: your opponents flare up so easily from a single match that it's a wonder they don't self-immolate from the static charge they build up from shuffling around on the carpet. Still, before upgrades, Castellanos can only carry five matches.

Sometimes not even fire will save you: we find ourselves frequently pursued by enemies who can only be avoided. The first, and by far the most distressing, of these is a livid clot of female limbs that vomits black hair out of its front end before scuttling after you. Any attempt to fight this psychiatrist's gold mine just leads to it smashing your head into the concrete, so you're left with no option but to turn tail and run, feathering the sprint button to avoid depleting your stamina bar and nerve-shreddingly negotiating tripwires as the thing gives chase behind you.

> ***While its setpiece tricks may be cheap, the project as a whole clearly hasn't been***

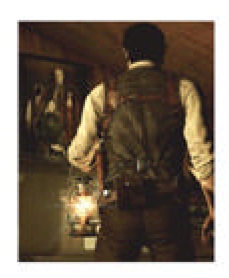
The second one you face is less effective, however. A hooded, mutilated apparition who pops up several times during our demo, his leisurely pursuits are vaguely comical, especially given that you need only outpace him for a few seconds before he gives up. Despite this, he's still a threat – get within touching distance and you're dead – and needs to be respected as such, even while you're leading him on a merry dance around a desk. And having an invincible thing chase you towards an impossibly distant, slowly closing lift door is like putting a dog in jeopardy in a movie – it's cheap and manipulative, but undeniably effective.



Yet while its setpiece tricks may be cheap, the project as a whole clearly hasn't been. *The Evil Within* is as lavish in its production values as it is with its blood, blending the ambience of a Peter Cushing horror flick with the polish that a Peter Jackson budget can buy. Bethesda's backing is obvious: the mansion section's introduction is finely detailed and often beautifully lit, with Tango Gameworks lovingly depicting moonlit pine forests and crumbling ruins. The attention to detail comes through just as strongly in the tangible kickback of the weapons, the precision of the controls, and the physics powering the soft swishing curtains. Little but the occasionally punitive checkpoint restarts betrays that this is a game still months away from release.

Mikami, however, finds himself in a difficult situation having invoked his own past. Should he stray too far from his heritage, fans will grumble; stick to what he knows and he'll face just as many critics. *The Evil Within* very much plays it safe – if that's the right word for a game set in a mansion containing secret industrial-meat-grinder traps and homicidal, glass-faced madmen. The game may startle when a burning ghost sprints unexpectedly out of a door or a corpse jolts into life, but on the basis of what's been shown so far, it's rarely going to surprise.

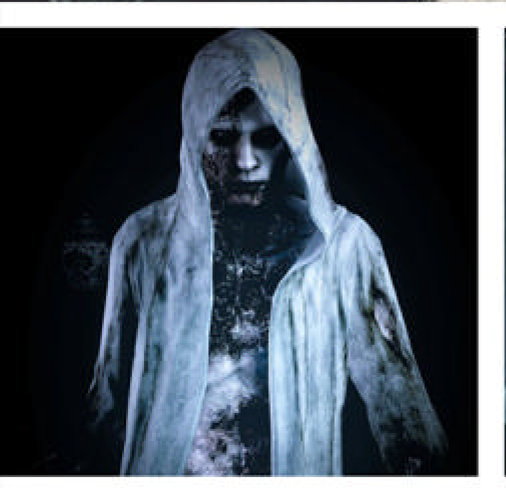
Safe, violent and unsettling, however, could be a pretty good deal. After all, the thirdperson shooter may be a crowded genre, but who is Mikami really competing with, other than himself, in this niche? *Resident Evil 5* baked to death in the African sun thanks to blockheaded AI; *Resident Evil 6* splintered into four separate games of wildly varying quality; *Dead Space* looks to have been put on ice after a grab for the mainstream dissipated the tension. So in this instance, familiarity may breed conviviality rather than contempt. Slipping into Castellanos's shoes, poking your head over his shoulder with a squeeze of the left trigger, and finding yourself stalking down a dirt path towards a haunted mansion or a murderous old-world village is like coming home. A gory, dangerous home, perhaps, with camp dialogue, creepy shop-window dummies, and farm-implement-wielding evil peasants, but home nonetheless. ■



Back in the closet

The demo hints at broader combat mechanics than just shooting: there are cupboards to hide in, beds to cower under, and traps to disarm and dismantle. Although the section we played didn't provide any need to lurk in a closet other than for the simple thrill of doing so, the traps seem promising. They're placed in ingeniously evil positions and require the player to creep up and disarm them with a *Mass Effect*-esque minigame, sometimes while monsters linger nearby. While this risks descending into tedium over the course of a full playthrough, for now the difficulty seems to be finely pitched, making each defusing attempt a deliciously risky ordeal.







TOP LEFT **The setting can be every bit as melodramatic as the dialogue – the trap-ridden mansion section is a place where dark secrets are revealed, probably while thunder crashes around you.**
TOP RIGHT **While not overly bright, your enemies have a knack for flanking you, despite their glacial pace, often attacking from the one angle you didn't cover.**
ABOVE **It wouldn't be unusual to fight something truly enormous in a Mikami game, and *The Evil Within* hints at gigantic foes later on.**
LEFT ***The Evil Within* adopts the *Resident Evil* series' tradition for logic puzzles. Here, Castellanos has to unlock a door by precisely delivering nail-like probes into three dissected brains**

FAR LEFT **While it's unclear what his role in the narrative is, this hooded spectre acts like a malevolent dungeon master, spawning enemies and blocking passages in order to hinder the player.**
LEFT **Monster designs are more body horror than psychological horror, but you still won't want to let them get anywhere near you**



HYPE

EVE: VALKYRIE

A year on, CCP's simple tech demo has become a virtual reality poster child

Publisher CCP
Developer In-house
Format PC, PS4
Origin Iceland
Release TBC



Sigurður Gunnarsson, senior programmer

CCP is no stranger to technological leaps of faith. *EVE Online* hosts all of its western players on a single server cluster, Tranquility, rather than opt to split them up over multiple shards, while *Dust 514* ambitiously attempts to marry a console shooter with a PC MMOG. Now, with the commercial releases of Oculus Rift and Project Morpheus still a way off, CCP's Newcastle studio is creating a dogfighting game that will *require* a VR headset to play.

That game is *EVE: Valkyrie*, which started life as a prototype, shown off as a curio at EVE Fanfest 2013 under the name *EVE-VR*. Its unexpected popularity there was a clear sign to CCP that this could be much more than a tech demo, and now a 25-person team is working on what has become a third major strand in the company's portfolio. And in just one year, *Valkyrie* has come on a long way.

"We're one of the few games, if not the only [one], at the moment being developed from the ground up for VR," says senior programmer **Sigurður Gunnarsson**. "Other games are focusing on supporting VR [as an option]. I'm a big fan of both *Star Citizen* and *Elite: Dangerous* as well – I backed them both, and I can't wait to play them. *Star Citizen*, *Elite*, *EVE Online* and *Valkyrie* are all starship games, and all space combat games, but they're also really different. We're focusing on immediate combat [and] intense multiplayer piloting. That's our primary focus for now."



As we're hurled down a launch tube and out into space, hectored by chirruping alert noises and a busy-but-readable HUD that points us to the enemy, it becomes clear that Gunnarsson and his team have captured the immediacy he speaks of. Combat feels urgent and violent, and our ship is responsive, but protests just enough to make it feel hefty. And, just as in *Elite: Dangerous*, being able to track your enemies simply by turning your head to look at them proves transformative.

The controls are simple, too. On our 360 pad, the left stick points the ship in the desired direction, L1 and R1 trigger barrel rolls, Y cycles targets, X deploys countermeasures, and our primary and secondary weapons are fired using the triggers. While our ship is always moving, A and B provide a boost or retro thrusters respectively.

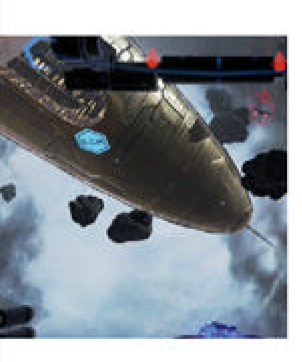
But immediacy needn't mean a lack of depth. As of the latest build, *Valkyrie* is dropping *EVE-VR*'s standard, heavy and sniper ship classes, which were based around their weapon loadouts, and replacing them with a selection of more nuanced 'roles', which are intended to interlink. On paper, it seems like a semantic difference, but Gunnarsson is adamant that the change makes sense. ▶



The first match you play in *Valkyrie* will likely be a short one, because you'll be so distracted by testing the limits of your view and exploring the cockpit that the incoming missile lock warnings will fail to register



EVE: VALKYRIE



The larger craft in the game suggest a future in which *Valkyrie* and *EVE Online* are meshed in some way. There are no immediate plans for this, but Gunnarsson admits that CCP already has ideas for how it might work

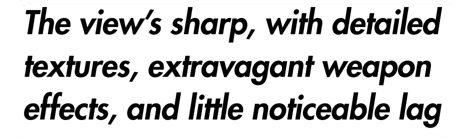
"[In *EVE-VR*], we were trying to find a way to distinguish those kinds of ships, but we found they were all kind of the same. It felt like you were flying the fighter but you just happened to have a sniper gun. It didn't feel different enough. Our lead designer, Chris Smith, said, 'All right, let's stop thinking about classes and start thinking about roles that promote team gameplay.' So now we have the middle-ground fighter, which is a jack of all trades. Then we have a heavier ship, which is more specialist – imagine a ship that's more like a slow-moving tank on a battlefield – and it will have some interesting functions you can deploy. And then we have the support role... The teams that win the most fights will be the ones that combine those different kinds of ships well to help each other."

Since the current build features only the fighter, it's impossible to tell yet whether this new design will make a profound difference, but other changes are more obvious. Missiles were overpowered in *EVE-VR*, and have been tempered by smart new constraints. You still hold LT to lock and release to fire, but rather than simply unleash a volley of rockets, now five dots light up sequentially around the target marker, and releasing the trigger fires only as many missiles as have been primed. This not only allows players to loose, say, one missile to finish off a stricken ship, but also means it takes more skill to hold your lock long enough to fire everything you've got.

Further nuance will be introduced by Turfs, the name CCP has given the areas where combat takes place. Rather than simply offering a series of attractive star boxes, each region will contain natural phenomena that play to the strengths of certain types of ships, while disadvantaging others. The nimble fighter will find it easy to hide in an asteroid field, for example, while the heavier tank-like craft will have to manoeuvre more carefully. Similarly, ships with strong shields will thrive in an area with an electrical storm, while weaker shields might collapse and leave you vulnerable. CCP is still experimenting, but other possibilities include dust fields, areas strewn with wreckage and even huge interiors.

The areas we do see look incredible, thanks to the combined efforts of Unreal Engine 4, which the team has now switched to from Unity, and Rift Development Kit 2's higher-res displays. The view is sharp, with detailed textures, extravagant weapon effects and explosions, and little noticeable lag. Movement is naturalistic – you can lean out over the side of your seat and look down below it – and we experience none of the nausea we've encountered in the process of trying various Rift demos in the past.

We also spend some time playing the game on PS4 with Project Morpheus, which, while comfortable and visually arresting in play, can't quite match Rift's smooth tracking. *Valkyrie* is running at 75fps on PC right now, but at a lower rate on PS4, illustrating the difficulties involved with rendering two instances of a game simultaneously. It's worth noting, however, that the version we played with Morpheus was an older build, and Gunnarsson is confident that the difference won't be too pronounced by the end of development. "Both platforms have strengths," he says when we ask him if he thinks PS4 is capable of standing up to PCs when it comes to VR. "Perhaps if you have the highest-end PC ever, you might be able to have some options in there that allows it to look slightly better on PC. But our goal is to make both versions look *really* similar"



Indeed, CCP's biggest challenge so far has been to establish the right rhythm for a game that immerses you so completely. Making *Valkyrie* too fast meant it was tough to track foes and the Turfs felt smaller, so now velocities are slower and the sense of pace is maintained with particle effects. "We constantly have to experiment with *Valkyrie* to see what works and what doesn't work, because there's not a lot of previous examples to look at of things being done well," says Gunnarsson. "With VR coming, I believe that you need to design your games in a different way – VR games are going to look very different to the games you see today." ■






The Wraith Mk II – so named because of the existence of the Wraith in *EVE Online* – combines the defence of *Online*'s Amarr Templar ship with the Caldari Dragonfly's offensive capabilities



Head case

VR is an exciting proposition, but it's hard to ignore the fact that, at least in terms of the isolating headsets attached, it rubs against the trend towards social experiences. However, Gunnarsson believes that it's simply a matter of refining the technology. "Yes, it conjures images of people sitting in the corner with a kit on their head, maybe drooling. But that's because you kind of lose yourself a bit. You're so immersed. If you extrapolate the hardware we have today a few years, we'll have things like eye tracking. When you can do stuff like eye contact with another person, it will be an immensely strong connection. And once people experience that, then they're going to believe this isn't going to be about isolation, it's going to be about social aspects as well."



TOP LEFT **While you now have to charge if you want to unleash a full payload of missiles, you can loose a single rocket by tapping the trigger rather than holding it. Countermeasures are more effective the closer a missile is to you, too, demanding steady nerves as well as quick reflexes to guarantee taking them out.** RIGHT **During the final few moments before your demise, your ship's canopy shatters and is sucked out into space. It's a terrifying sensation, leaving you feeling disturbingly exposed**

TOP RIGHT **This view is looking back and over your shoulder. Although the metal surfaces look meekly functional here, there's a great amount of detail elsewhere. Not being able to move your virtual arms feels awkward, though.** ABOVE **Each battle begins in launch tubes, essentially a lobby, as you wait for other fighters to join up. When the countdown ends and you barrel out into space, the sense of fast acceleration is so real that it even makes us involuntarily tip our heads back a touch.** MAIN **Debris isn't just for show – it will damage your ship if you hit it. Details such as this add to the sense of momentum in the void, as well as underscoring the violence behind *Valkyrie*'s otherwise-balletic duels**



DRIVECLUB

After delaying its PS4 debut's launch, Evolution is back on track

Publisher	SCE
Developer	Evolution Studios
Format	PS4
Origin	UK
Release	October 7 (US), 8 (EU), 10 (UK)



Paul Rustchynsky, game director

Let's get this out of the way now: when it launches in early October, *DriveClub* will render at 1080p, but only at 30fps. Evolution Studios had hoped to achieve 60fps when development began, but even with PS4's formidable power, apparently something had to give under the weight of the sheer amount of detail the team is cramming into the game. But in a genre that's all about precision and speed, is framerate really worth sacrificing for the sake of fidelity?

"I absolutely think so," *DriveClub* game director and former design director **Paul Rustchynsky** tells us. "I suspect a lot of people think we may have compromised the gameplay experience by choosing 30fps, but we've spent a huge amount of time minimising the latency between the pad and what happens inside the game so you never feel disconnected, and you never feel like you're getting a sub-par experience.

"It's a balance, because you can only do so much on any platform – PS4 has been fantastic to work with and we've done a good job of pushing it. It's always a tradeoff, ultimately, and I think we've made the right choices to make the best driving game we could have made." The payoff, he says, is exceptional audio and visual fidelity, backed up by a slick interface to support *DriveClub*'s intriguing social aspects.

When we previously played the game, it was 35 per cent complete and underwhelming, at least in some respects. But from what we see of the current build, players will have plenty to distract them from counting frames. Evolution's attention to detail is, in a very real sense, obsessional. Every car in the game has been meticulously modelled, each boasting bespoke seating positions, and custom entry and hand animations for both male and female drivers. It takes the team roughly seven months to assemble each 260,000-polygon in-game model, all of which are treated to several layers of paint shaders, building up from carbon fibre (where appropriate) through to the gloss coat. It's easy to question the studio's excesses in rendering its carbon-fibre weave, but the result is that any exposed carbon matches exactly what you'd find on the real car.

Audio has been handled with the same fanatic reverence. Throughout development, Evolution has got its hands on every car in the game, capturing the sound of each engine with upwards of 18 mics. In-game, this is replicated through around 90 samples per car and a little granular synthesis, and if you rotate the camera around the car you'll move from a throaty exhaust note at the back all the way through to the trebly rush of air at the ▶

Car handling feels as meaty as it did when we played the game last year, striking a good balance between accessibility and authenticity, with distinct personalities to be found across *DriveClub*'s fleet





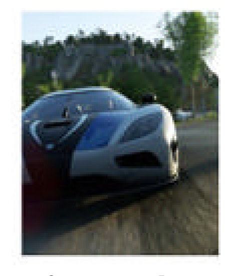


AI opponents drive a convincing race, making mistakes on corners and trading places aggressively whether you're in the pack or not. It makes for a lively drive irrespective of whether you're playing with friends









After market

Project Cars is coming to PS4 just one month after *DriveClub*, but Rustchynsky isn't worried. "I'm a *Project Cars* backer! I've got it on the PC and play it using a wheel… But it's a very different type of experience, and I don't think there's any sort of crossover with *DriveClub*. Sure, they want to make it look and sound great, but we're trying to appeal to a wider audience. And I think healthy competition is great for the genre – it's been up and down throughout the year, so it's good to see lots of high-quality racing games coming out. Because, as a racing game enthusiast myself, I want to play them all."

front. We're ushered into a waiting Ferrari 458 to listen as audio director Alan McDermott revs the engine a few times, then plays the in-game equivalent to us. The comparison is remarkable. McDermott tells us that, on hearing his team's work, both Mercedes and BMW requested Evolution's recordings to replace their own sound libraries. In audio terms, *DriveClub* is peerless.

"I'm fighting now to get it so that in the race, music's off by default," says Rustchynsky, laughing. "The music *is* the car engine; that's what you want to hear. And the sound's going to improve by the time players get their hands on the game as well, [since] we're just finishing hooking up the drive train so that you get the oscillation as you switch between the gears. It sounds great, especially in cars like the [open-top] BAC Mono, where it's a very direct noise from the engine."

But while *DriveClub's* delay has allowed for a great deal of additional polish, the main reason for the hold up was the UI. Evolution wants to make things as simple as possible for club members, with its own party system (you can still use Sony's party chat if you wish) and a dynamic menu. The newly devised system starts at the high level with options such as Drive, which covers racing and time trials; My Club, which displays statistics and other data; and Challenges. Beyond that, there's also an activity feed similar to the one you'll find on your PS4 dashboard that shows you what your friends are doing and which challenges are available. Click on any of the displayed notifications and you'll go straight to the relevant track to take on that challenge yourself. And rather than have a lobby, *DriveClub* presents its live events as a race calendar, allowing you to book a slot in advance for an event taking place in a few minutes, or even one several days away.

On top of all of this, a free *DriveClub* mobile app will allow you to check on club progress, manage team members and even watch streamed races from other players. It's a simple enough system, but one that keeps *DriveClub*'s social rivalries at the forefront of everything you do. It's convincing enough on paper, but finding out whether it can keep pace with *Need For Speed*'s excellent Autolog will have to wait until it's in the wild.

> ***"I'm fighting now to get it so that music's off by default. The music is the car engine"***

And this is where *DriveClub*'s delay might prove a boon. Evolution could have been there at PS4's launch, but admits the experience would have been a compromised one. Now it will be able to sell its vision of a socially networked racing game to over seven million players. If *Forza 5* and *Battlefield 4* are examples of what happens when a developer is rushed, *DriveClub* is shaping up to be a paragon of allowing a project the time it needs to reach its full potential. ■

ABOVE LEFT **The reworked menu system feels slick and intuitive, and the use of the touchpad as a home button is pleasing. Quite why it's caused a year's delay is harder to fathom, however.** ABOVE ***DriveClub* is, visually speaking, worlds ahead of the previous build we played, and the team is promising even more improvements in the form of reworked particle effects, depth-of-field tweaks and other flourishes**

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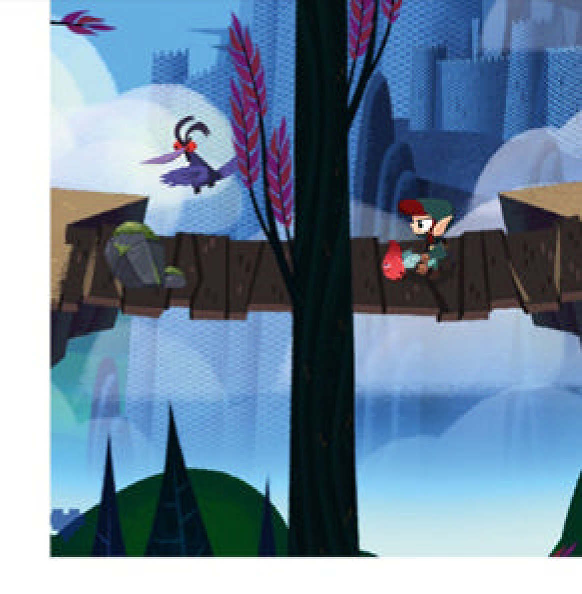
THIS IS FOR THE PLAYERS

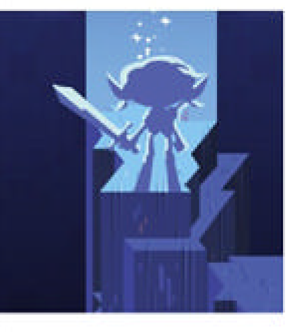




Publisher Double Fine
Developer In-house
Format PC
Origin US
Release 2014







Hack 'N' Slash is a game about hacking, but Double Fine has avoided tired cyberpunk settings in favour of a fantasy world whose physics are "governed by algorithms instead of particle interactions"

HACK 'N' SLASH

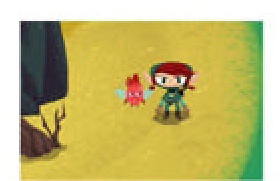
The Double Fine adventure that's hacking apart the fantasy genre

The title may be *Hack 'N' Slash*, but it's clear from the opening moments of Double Fine's inventive action-adventure that you won't be doing much of the latter. Alice, a young elf, immediately breaks her sword on the bars of her cell, revealing a USB connector beneath the blade. Plug it into the door's slot and you can access its code. Luckily, there's just one command, 'Open: false'. Change the answer to 'true', and it swings ajar so her quest can begin in earnest.

Hack 'N' Slash was officially conceived during Double Fine's Amnesia Fortnight, an annual event where employees form small groups to create game prototypes. Yet for **Brandon Dillon**, the game's project lead, the idea had been brewing for much longer. Dillon played games on an emulator when he was young, and was struck by the discovery of the reverse-engineering tools built into the software. "It felt really empowering to open up the hex menu to figure out how to use those tools, find whichever value I wanted to tweak within the game, and do whatever I wanted to with it," he tells us. "I didn't really have the emotional maturity to deal with games that were as difficult as NES games were. With something like *Contra*, I couldn't appreciate the game they were trying to present to me. But I could bring it into an emulator, tweak values and make it a little bit more humane. It felt like I had made the game my own, and that way I got to really enjoy it."

Hack 'N' Slash is about cheating, then, but crucially it's creative cheating. Take one of the first enemies you'll encounter: a spiked turtle affected by the corruption blighting this fantasy world. It will charge at you, but flips onto its shell when dodged, exposing its

You'll see visual glitches when hacking any object, though the Early Access version has its share of bugs, too. A time-travelling device allows you to revert to an earlier section should you accidently break the game

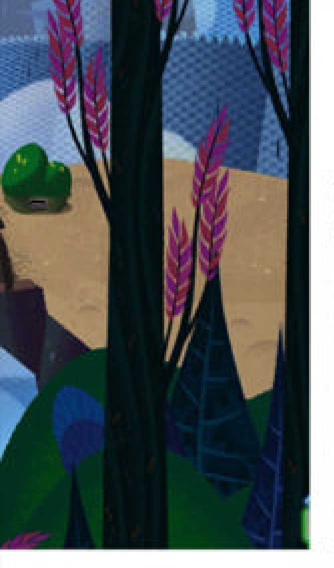




ABOVE CENTRE **Alice is joined by a winged sprite named Bob to act as a surrogate Navi.** ABOVE **The antagonist is an evil wizard, whom Alice is tasked with defeating in the game's climactic – and as yet unfinished – final act**

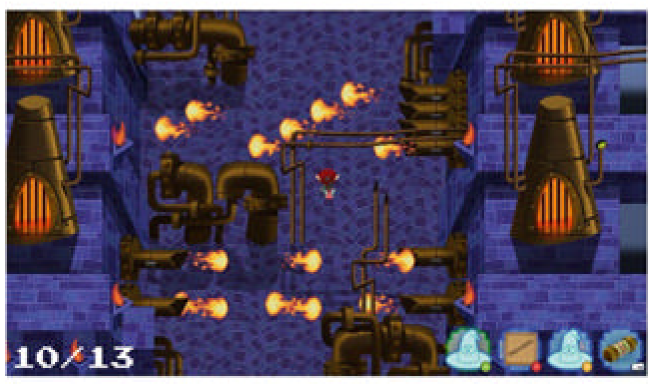








LEFT **Achievements aren't currently present, but Dillon suggests they represent an opportunity to push players towards solutions they might not have considered**



TOP **Its hacking mechanics mean this is a PC game at heart, yet *Hack 'N' Slash* has its roots firmly in the 8bit console era. The entire game can be played using a controller, and Dillon admits that he would love to see it get a console release.** ABOVE **These fireballs aren't easily dodged at normal speed, but the ability to slow down or speed up time means avoiding damage becomes straightforward**

USB port. Plug in and you can set its health to zero, slow its movement speed, turn it into an ally, or even get it to explode after charging. You can have it spit out dozens of health-restoring hearts upon death, adjust its perception sensors so it can't see you, or even get a little more adventurous and play around with its AI routines, getting it to walk around in circles. Soon after, you're asked to tackle a boss. Dillon says that some players create chaos by spawning dozens of turtles from a nearby nest in the hope that the crowd will hurt it. We opt instead to play matador: we vastly increase a single turtle's damage output, invite it to charge us (at a reduced speed, of course) and then dodge at the last moment, finishing the job in a single strike.

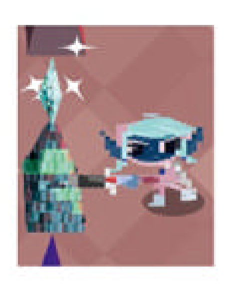
As Alice collects more items, she's able to see the inner workings of her world, revealing hidden symbols, invisible platforms and the vision cones of armed guards. The puzzles steadily increase in complexity until, by Act 4, you're looking at the game's code in order to reverse-engineer solutions. "I always thought it would be cool to make a game that would allow people to have those really insightful and empowering moments that I had throughout my history of learning to become a better programmer," Dillon says.

As a result, the game's progression feels strangely educational, although that's a happy accident, as Dillon freely admits. "It does have a kind of curriculum," he says. "The way I designed the game is [to give you] all the cool hacking tools and principles, and order them based on complexity. So it accidentally wound up [being] educational, because that was the way to work out the puzzle progression." That unintentional progression curve has already had unforeseen benefits: since the game launched on Steam Early Access, Double Fine has had requests for educational licences, to allow the game's mechanics to be used as a learning tool.

"Getting stuck is part of it, because getting unstuck is what makes you feel smart"

A full release is not too far off, but already *Hack 'N' Slash* shows great promise. It's rare to find an adventure game that's prepared to let its players get stuck, but *Hack 'N' Slash* is all the more rewarding as a result. "It needs to feel a little bit mysterious and weird and difficult to grapple with," Dillon explains. "Actually, this is something Tim [Schafer, Double Fine's founder] has talked about within the context of the adventure game. Being stuck is part of it, because getting unstuck is what makes you feel smart."

During playtesting, Dillon and the rest of the development team would watch players struggle and wonder if they should make the game easier. The answer was almost always no, however. "You have to [retreat] from those modern game design instincts, hang back and let it simmer for a little bit, and let the player have the insight for themselves," he says. "Don't take that away from them." ■



Boom 'n' bust

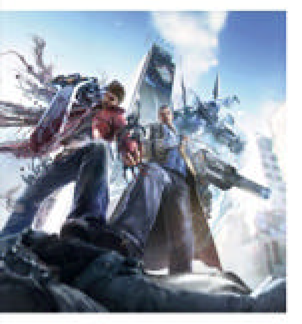
The ability to use bombs to enter the code for objects – represented here as a physical space – had an unusual side effect. "One thing I didn't realise until our programmer implemented it is that you can bomb the bomb," Dillon says. "And when you're inside the code rooms for the bomb, you can bomb the machines inside the code rooms to go inside the code for the code rooms. That's a really interesting lateral thing to think about, [but it was] something I didn't anticipate. It just came out of the mechanics. Duncan [Boehle, programmer] said, 'Do you want me to disable that?' And I said, 'No! We've got to figure out how to turn that into a mechanic!'"



The Early Access release has allowed Double Fine to react to experimental approaches from its players. Late-game puzzles will be tuned "to pull from the vocabulary of cool things," says Dillon



Publisher/developer Bandai Namco
Format PC
Origin Japan
Release 2014

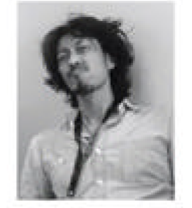


RISE OF INCARNATES

Anarchy reigns in this westernised jab at the team brawler

Gundam Vs, Bandai Namco's two-on-two fighting game series, is a stalwart of the Japanese arcade scene. Yet these games – as well as the style of tight-knit team play that they've popularised in so many Shinjuku basements – are virtually unknown in the west. **Ryuichiro Baba** has worked on the *Gundam Vs* series for a decade and was executive producer on *Mobile Suit Gundam: Extreme Vs*, and he believes the medium has been the problem, not the message. So, in the absence of a vibrant western arcade scene, he intends to bring this idiosyncratic type of competitive fighting game overseas via PC instead. The result is *Rise Of Incarnates*, a free-to-play brawler that's being developed by Baba alongside veterans of Namco's flagship *Tekken* and *Soul Calibur* series.

Baba first conceived the idea for a western-centric competitive online brawler three years ago. He then spent 18 months convincing Bandai Namco's management of its potential, carrying out market research in London and other key cities. "A lot of research went into the character designs to ensure that they weren't going to turn off the western players," he says. "We had to prove that the game would be commercially viable as best we could. And we also spent a great deal of time on the mechanics themselves." Indeed, while the game shares strategic similarities with *Gundam Vs*, its aesthetic and fine details are distinctive.



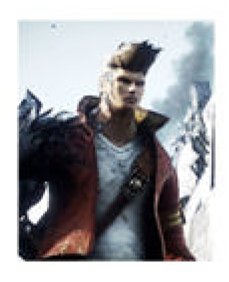
Ryuichiro Baba, executive producer

In other words, there are no big stomping robots. *Gundam*'s sci-fi trappings are gone, too, with *Rise Of Incarnates* set in a series of derelict real-world cities, each one bordered by piles of smashed cars and concrete. There are four playable characters – the eponymous supernatural incarnates – at this pre-alpha stage, each of which has access to a powerful otherworldy form. The designs are typically outlandish for a game that, despite its global intentions, remains firmly rooted in anime tradition. The mad researcher Dr Gasper Watteau, for instance, can morph into the Grim Reaper incarnate, and wields a scythe lined with a chainsaw blade while surfing along on a tidal wave of corpses.

Strategy derives from the way in which two players work together, either choosing to focus their efforts by ganging up on a single opponent or spreading their attention across both rivals by marking one character each. The combination of chosen fighters alters strategy and, at the moment at least, it's possible for both players to pick the same fighter. If both opt for Lilith, for example, a purple siren who can streak into the air on butterfly wings, it becomes a game of maintaining distance while showering down locked-on range attacks. Conversely, if both choose Mephistopheles, a powerful rage demon, then they must keep their opponents in reach to make use of his melee attacks. As more characters are added to the roster, new complementary options should open up.

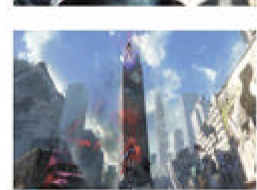
Baba is keen to position *Rise Of Incarnates* as a game that will support high-level competitive play. "We have a great deal of experience in eSports," he says. "We know that there are star players and that their tactics influence the masses who follow, so we're trying to encourage and facilitate that." Nevertheless, there is a balance to be struck, especially for a novel type of genre outside of Japan, and a game that Baba is hoping will attract a wide demographic.

He and his team have studied *League Of Legends* and other popular PC-based free-to-play titles that successfully blend a broad base appeal with staggering strategic depth. "It's important that the game is easy to pick up and play," he says. "For that reason, we've standardised the controls for each character, even though abilities are varied. But even so, you'll find it's very hard to beat us, because we have mastered timing, combinations and cooperation. The opportunity for mature strategy and expression is crucial. That's what will appeal to the top-tier players." ■



Free for all?

Baba heads up Bandai Namco's current drive in experimenting with monetisation models, which has spurred the creation of free-to-play entries in both the *Ace Combat* and *Soul Calibur* series alongside *Rise Of Incarnates*. But he is adamant that the business model will not interfere with the need for a level competitive playing field. "We were clear right from the start that this wouldn't be a pay-to-win game. It's something we learned to stay well away from with *Tekken Revolution*. Instead, all of the monetisation [will be] focused on personalisation." Players will be able to purchase new costumes for their chosen brawler, but the mechanics and player progression will remain unsullied by financial concerns. Whether such a seemingly light touch can make *Rise Of Incarnates* sustainable is another matter.



TOP **Dr Gasper Watteau's backstory involves trying to unlock incarnate powers in others, before unleashing his own sinister alter ego as the Grim Reaper. He has the ability to summon waves of cadavers, and surf on them.** RIGHT **A special meter fills during play, which allows you to trigger a powerful special move, although this can be wasted if your target is out of range**

TOP **The pre-alpha build takes place in a demolished post-apocalyptic New York street. Baba says Paris and London stages are also under development.** ABOVE **The team has developed an entirely new engine for the game, which will be the company's first Steam-only F2P release.** MAIN **Jedrek Tyler is a more Jekyll and Hyde character than the other revealed brawlers, struggling to control the influence of the bloodthirsty Mephistopheles. He, like all of the characters shown so far, has an array of aerial moves, such as dashes and mid-air juggles**



Publisher/developer 4gency
Format PC, Xbox One
Origin US
Release December





Habitat's creators seem keen to put as much as possible into players' hands with which to build haphazard orbital homes, including tanks, buses, and even bizarre Terminator-esque distortions of landmarks

HABITAT

Meet 4gency and its orbital scrapheap challenge

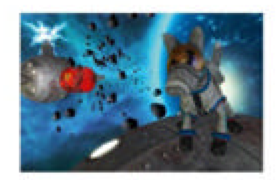
An awkward attempt to manoeuvre our scrap-metal space station closer to the floating severed head of the Statue Of Liberty has ended in disaster. A passing asteroid just wrecked our port-side thruster and so now, having powered down its opposite number too late, we're out of control, spinning in concentric circles towards a nuclear bomb. The belt of debris that orbits this far-future Earth was our last hope of survival, but clearly it also threatens it.

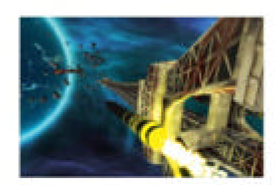
In *Habitat*, your goal is to build sanctuaries from space junk. The orbital mess is made up of lots of different objects, or nodes, which range from small gas canisters right up to a crooked Eiffel Tower. This debris was ejected from Earth by the formerly wasteful, and now contrite, human race, which is attempting to escape a nanobot scourge that has overrun our planet. And every bit of scrap can be bent to your will, whether that's making more space for refugees or weaponising a shipping container to fend off other colonies.

In its current state, the game plays isometrically, letting you navigate space with the left stick and placing cursor control on the right on a pad. Select an object and a translucent outline of it will appear, which you can then rotate (only on the x axis at the moment), attach to your habitat, or place somewhere else, ready to attach to other objects. Once an instruction is issued, one of a number of engineers under your command will use a jetpack to reach the object and manipulate or weld it as required.

These spacesuited minions may be faceless, but are nonetheless charming, clinging for dear life to violently spinning objects and crying out if they're hurled into

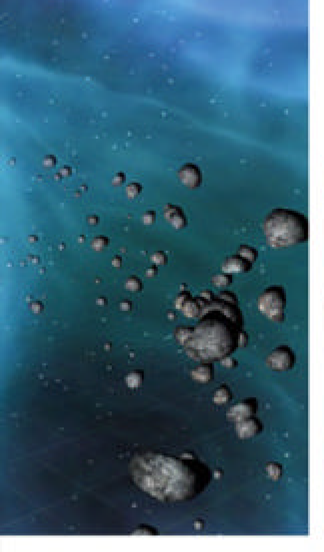
Your habitat's statistics are displayed in the top right of the screen, allowing you to keep an eye on oxygen, food and power production levels, as well as the amount of living space available for the humans in your care





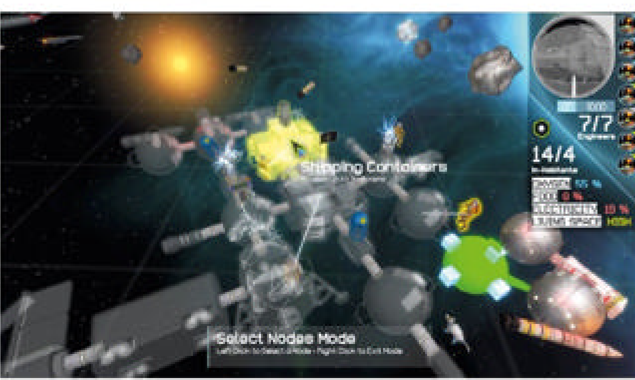
ABOVE CENTRE **The Apollo Lunar Module makes for a conveniently prefabricated propulsion system, though you'll still have to find and attach other rockets in order to maintain fine control.**
ABOVE **The space dog has no function right now, floating about space listlessly and occasionally drifting into shot. In the finished game, you'll be able to strap a rocket to his back and use him to explore farther afield. But you could just as easily attach a booster to the Eiffel Tower and send it hurling into a competitor's base**







Building is a simple, enjoyable process, while crashing your creations into each other and watching the shrapnel fly offers a cathartic release from your responsibility for the ongoing survival of humanity



ABOVE **So long as you keep finding scrap metal, Habitats can become expansive. The humans that live in your creations are represented by transparent outlines at the moment, but 4gency intends to give them more detail and animation in time**

space or hit by something. You can cycle through the available engineers using the left and right bumpers, and a display in the top right of the screen relays a monochrome fisheye feed from their helmet cams. Paired with static and their heavy breathing, what initially appears to be a detached resource management sim quickly reveals itself to be highly atmospheric, and frequently amusing.

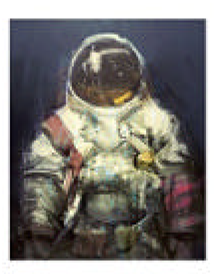
Assuming you can keep your engineers from perishing by asphyxiation or in other calamities, you're free to build habitats of surprising scale. During our time with this early build of the game, we were limited to a play area around 0.04 times the size of the one that Seattle-based creator 4gency plans to let players loose in, but it still contained hundreds of physics-enabled objects to toy with. Each has one or more connection points, which snap together satisfyingly when you line them up. Once joined, you can choose what role you want each node to perform. Some can only do one thing – a rocket, for example, can only ever be that, but it's up to you whether it's used for propulsion or aggression – while others have multiple uses, such as living quarters, power generation or even food creation.

The larger your station, however, the more unwieldy it will be to relocate. You won't need to travel at first, given the debris field will provide rich pickings. As you continue to scavenge, however, there will be more and more distance between you and the next batch of useful resources, necessitating increasingly dangerous trips for your fragile engineers unless you move the station closer. But flying your junk fortress is a mix of good intentions and blind panic as you cycle between the rockets you've attached to various points, meting out throttle with the right stick and switching engines on and off as necessary. Forgot to attach retro thrusters ahead of your journey? Well, good luck stopping.

You're constrained only by your imagination and the already large pool of parts

Habitat's sandbox mode allows you to revel in the inertia-fuelled chaos (binding a power source, laser cannon and single rocket together makes for a brilliantly dangerous Catherine Wheel), but the campaign will require greater care. Here, engineers become a finite resource, while three different levels of orbit will introduce you to new threats, including an alien race in the outermost ring. Lower down, you'll also have to contend with nanobots building their own habitats as they follow you beyond the Earth's atmosphere.

Toying with *Habitat*'s physics is instantly enjoyable, and within its flexible systems you're constrained only by your imagination and the already large pool of available building blocks. But lasting appeal will depend on 4gency's ability to support its amusing chaos with true depth, and ensure that mistakes – or, indeed bad piloting – aren't punished so harshly as to discourage experimentation. ■



Space hulks

Some attachments give you particular abilities, rather than simply increasing your station's population or power output. The grappling hook, for example, can be used to reel in objects so they're close at hand for your engineers, but you could also affix it to an ersatz vehicle and tow your station that way. 4gency has also provided inspiration in the form of small, pre-built examples of habitats, which can be found floating in orbit with you. Some might be farms, while others are bundles of military-grade weaponry. You can expand on these as you wish, because there's no limit to the number of habitats you're able to build.



There's no word on whether you'll be able to build huge robots like the one depicted in this concept art, but with the nanobots giving chase, you'll need to be creatively aggressive to survive



ROUND-UP

FANTASIA: MUSIC EVOLVED

Publisher Disney Interactive **Developer** Harmonix **Format** 360, Xbox One **Origin** US **Release** 2014



Staff at Harmonix didn't take the news of a Kinect-free Xbox One too well. Nothing came closer to justifying the 360 version of the peripheral's existence than the *Dance Central* games, and Harmonix's chances of achieving similar success on Xbox One just took quite a dent. Business considerations aside, the great lingering concern is the soundtrack: the currently announced tracklist, full of well-known cuts from the likes of Nicki Minaj, Bruno Mars, Queen and Elton John, hews a little too closely to the middle of the road. That lot can't come cheap, either. Little wonder, then, that Harmonix was dismayed by the Kinect cut.

TALES FROM THE BORDERLANDS

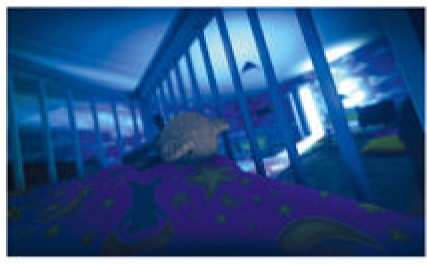
Publisher/developer Telltale Games **Format** 360, PC, PS3 (others TBC) **Origin** US **Release** TBC



Telltale reckons the *Borderlands* universe "rivals Star Wars for richness", which we're assuming is intended as a compliment rather than confirmation that the cast will spend the first episode of *Tales Of The Borderlands* quibbling over the taxation of intergalactic trade routes. Expect standard Telltale fare with the odd twist – there are two playable characters, for instance – and gentle crossplatform integration, with collected loot unlocked in other *Borderlands* games.

AMONG THE SLEEP

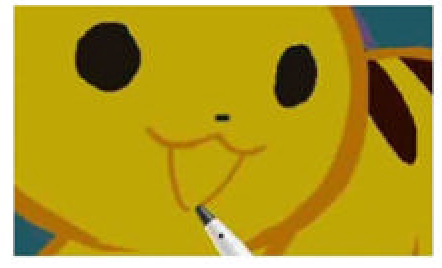
Publisher/developer Krillbite Studio
Format PC, PS4 **Origin** Norway **Release** TBC



Confirmed for Morpheus on PS4 as well as Rift, Krillbite's horror, in which you play a spooked two-year-old, is now approaching final release. "You're vulnerable, scared, and trying to make sense of the world," says CEO Ole Andreas Jordet. Hang on, are we playing a newborn, or a new parent?

POKÉMON ART ACADEMY

Publisher/developer Nintendo
Format 3DS **Origin** Japan **Release** July 4



With more than 12 million copies of *Pokémon X&Y* sold, Nintendo is doubling down on Pikachu and co. In addition to this revamped version of 2009 DS outing *Art Academy*, the company has announced Japan-only StreetPass battler *The Band Of Thieves & 1,000 Pokémon*. Expect more at E3.

HOHOKUM

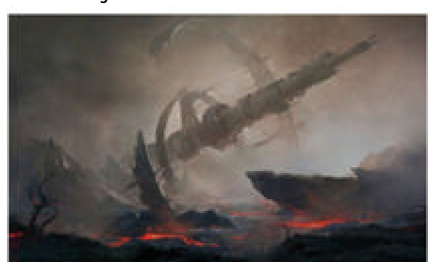
Publisher Sony **Developer** Honeyslug
Format PS3, PS4, Vita **Origin** UK **Release** Summer



Hohokum's art style, which Honeyslug calls "the right kind of wonky", is matched by its soundtrack, provided by Ghostly International artists including Tycho and Matthew Dear. We're still unsure how this non-linear and largely objective-free game is going to hang together, but we can't wait to find out.

PROJECT LEGION

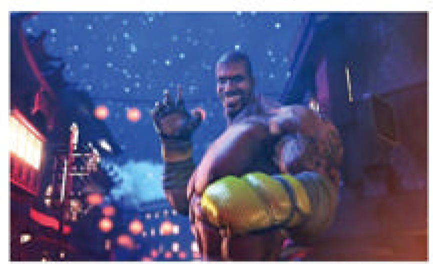
Publisher CCP Games **Developer** CCP Shanghai
Format PC **Origin** China **Release** TBC



With *Project Legion*, CCP is transplanting the concept behind PS3 shooter *Dust 514* – taking the interstellar *EVE* fight to planet surfaces – into familiar PC territory. What we've seen is early stuff, but CCP promises PvP and PvE scavenging missions and a hub area. It's free-to-play, too, of course.

SHAQ FU: A LEGEND REBORN

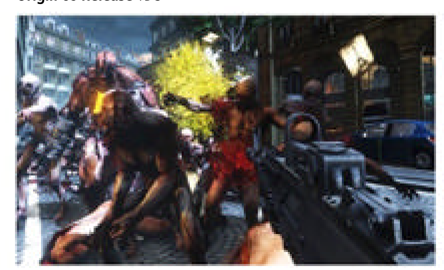
Publisher/developer Big Deez Productions
Format 360, PC, PS3, PS4, Wii U, Xbox One **Origin** US **Release** TBC



Who'd have predicted a world where this gets crowdfunded while other nostalgia projects die on the vine? But here we are. Retired basketball star Shaquille O'Neal will return in what Big Deez promises will be nothing like "the abomination that was born in the '90s." We'll believe it when we see it.

KILLING FLOOR 2

Publisher/developer Tripwire Interactive **Format** PC
Origin US **Release** TBC



Tripwire's wave-survival shooter offers the most advanced gore system ever: MEAT (Massive Evisceration And Trauma). It's fully motion captured, with 95 death animations for each enemy type. Extensive mod support is promised; fitting, since the original began life as a mod for *Unreal Tournament 2004*.

DISNEY INFINITY 2.0: MARVEL SUPER HEROES

Publisher Disney Interactive **Developer** Avalanche Software **Format** 360, iOS, PC, PS3, PS4, Wii U, Xbox One **Origin** US **Release** 2014



Skylanders has had a good innings, but Activision's purple dragon looks like he's about to get Hulk smashed. *Disney Infinity 2.0* delivers 20 of the best-known heroes in history, storylines penned by award-winning Marvel writer Brian Michael Bendis, an overhauled Toy Box mode and, crucially, backward compatibility with the first game's figures and power discs. It's coming to iOS, too, and if it should all go horribly wrong then Disney also has Star Wars in its pocket.

UNREAL TOURNAMENT

Publisher/developer Epic Games **Format** PC **Origin** US **Release** TBC



"Build, ship and pray" is how project lead **Steve Polge** descibes Epic's old way of working. Now operating with investment from Chinese media giant Tencent, Epic is doing things rather differently, announcing a new *Unreal Tournament* on its first day in development. A small core team will build the game, but it'll be series fans and Unreal Engine 4 developers that give it life, creating and selling mods and content. Epic's cut of the proceeds will mean the game is free. "Not free to play," the project wiki insists, "but free." If nothing else, it seems like a smart way of driving signups for the $19-a-month Unreal Engine 4.


#4ThePlayers
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VIDEOGAME CULTURE, DEVELOPMENT, PEOPLE AND TECHNOLOGY

70

112

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74

116

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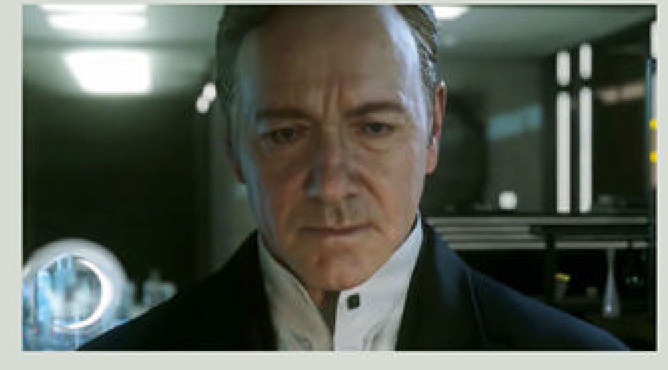
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War Machine

Conflict is a business and the infantry is mechanised in Call Of Duty: Advanced Warfare

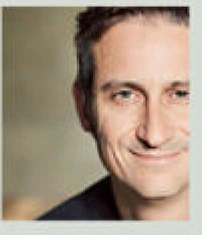
By Michael Gapper

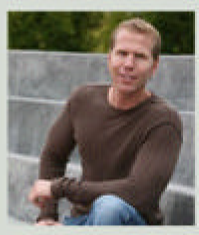
Format PC, PS4, Xbox One
Publisher Activision
Developer Sledgehammer Games
Release November 4



Kevin Spacey stars as Atlas CEO Jonathan Irons. The actor's scenes are being filmed with him in a capture suit and Spacey appears in-game with his performance recreated at an unprecedented level of fidelity for videogames







FROM TOP **Creative director Brett Robbins; Michael Condrey, Sledgehammer's head and co-founder**

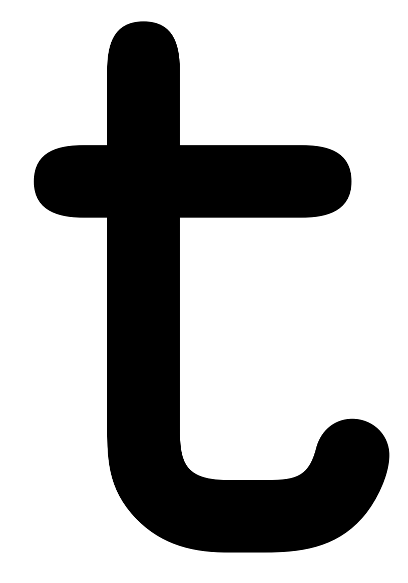
ince the metric system's introduction in 1799, every industrialised nation in the world bar one has adopted it as its official – if not always universally implemented – system of measurement. The United States is the outlier, so implacably resistant to change that even the glowing displays of the hoverbikes in *Call Of Duty: Advanced Warfare*'s 2054 measure speed in miles, not kilometres, per hour. Some things never change, after all. You can give this series a new developer, a new console generation and a rocket-propelled jump that can launch you over a building, but in almost every way that shows on an E3 stage, *Advanced Warfare* is still *Call Of Duty*, implacably resistant to change.

"It's a constant push and pull," **Brett Robbins**, creative director at Sledgehammer Games, says. "You don't want to break what you think is successful, but you have to deliver something new. It's a battle. And it's a huge creative challenge, especially this many entries in. The franchise is about great cinematic experiences, and we don't want to lose that."

It's been called The *COD* Problem: the need to innovate, but in increments small enough not to alienate the largest and most dependable fanbase in games. Every year, millions turn out to play a new *Call Of Duty*, and while the series has changed beyond recognition since its WWII origins, the things that make *Call Of Duty* what it is now are practically set in stone. Every year brings a new tune, but the beat is the same.

"I think calling it a checklist is too prescriptive," Sledgehammer studio head and co-founder **Michael Condrey** says. "There are clearly some values that this franchise has been built on: the hero's journey, 60fps, high production values, amazing multiplayer, plausibility… But I believe that innovations can happen. Innovations in the player movement set are really exciting and transformational to how we build levels. The ability to go vertical, to jump multiple storeys, to approach a battlefield from above rather than from head on… In singleplayer, you can see that change; now imagine what that brings to multiplayer." ▶

"You don't want to break what you think is successful, but you have to deliver something new"



The change Condrey describes is clear, even within the boundaries imposed by *COD*'s values. *Advanced Warfare*'s campaign plays out over a period of eight years, beginning in 2054 when US Marine Corps Private Mitchell is injured on duty. Rendered unable to fight in a conventional way, he signs on with private military company Atlas and is carried into battle by the EXO exoskeleton system, which increases his speed, strength and his moveset for navigating a battlefield.

"It made a lot of sense," Sledgehammer CEO and co-founder **Glen Schofield** says. "The military is experimenting with powered exoskeletons right now. Guys can carry 400lbs on their back. For us, it brings some major new mechanics and variety [to] the levels. We have a boost jump, a new type of cloaking, a grapple zip-line, magnetic gloves, and you'll even be able to hover in some places. The heart and soul of the game, and the advanced soldier, is the exoskeleton."

In the first of *Advanced Warfare*'s demo missions, a car chase across the Golden Gate Bridge terminates in a crash and a sustained shootout as Atlas forces advance on terrorist operatives. Ruined vehicles litter the bridge, forming an assault course for Mitchell and the tier-one Atlas forces to navigate by rocket-jumping over flipped buses and boosting into cover. When the terrorists deploy drones, Mitchell tears a door from a car as a shield. When enemy forces become overwhelming, Overdrive effectively slows time as Mitchell's reaction times are boosted to *Max Payne* levels.

The fight ends with the capture of an enemy van moments too late. Controlled remotely, it opens and deploys explosive drones, which sever the bridge's suspension cables, causing it to collapse upon the US aircraft carrier sailing beneath. It's almost the perfect *COD* moment – as spectacular as it is absurd – but this, says Schofield, is the kind of scenario the team has spent three years researching alongside a team of experts.

"I started thinking about Fleet Week – this week-long thing where they have 50 to 70 ships in the harbour," Schofield says. "I talked to a military adviser, who said, 'That would be the perfect place [for an attack] if you could actually take the bridge.' So one of our other guys works for the government trying to find vulnerable places in nuclear plants, and he was able to get us in touch with a structural engineer. At first, we were thinking, 'Well, we'll take the towers out.' They said, 'Yeah, good luck. Those things are solid.' They said that if you cut the big cables, [then] that was the way to take it down."

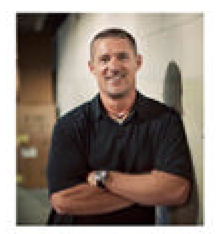
"We have a boost jump, a new type of cloaking, a grapple zip-line, you'll even be able to hover"

The fiction's plausibility is crucial. Yes, something like the EXO suit has already had a starring role attached to Matt Damon's body in Elysium, but *Advanced Warfare* has no space city or cancer cures. Even 40 years from now, it has to feel like a particular kind of reality – exaggerated and heightened, but contextually appropriate.

"With three years of research, we've gone deeper than we've ever had the luxury [to] before," Condrey says. "We've had more military advisers, more historians, more futurists, and they keep sending us material and news stories all the time. Japan is working on a space elevator right now. There's a team in Russia building a plan ▶

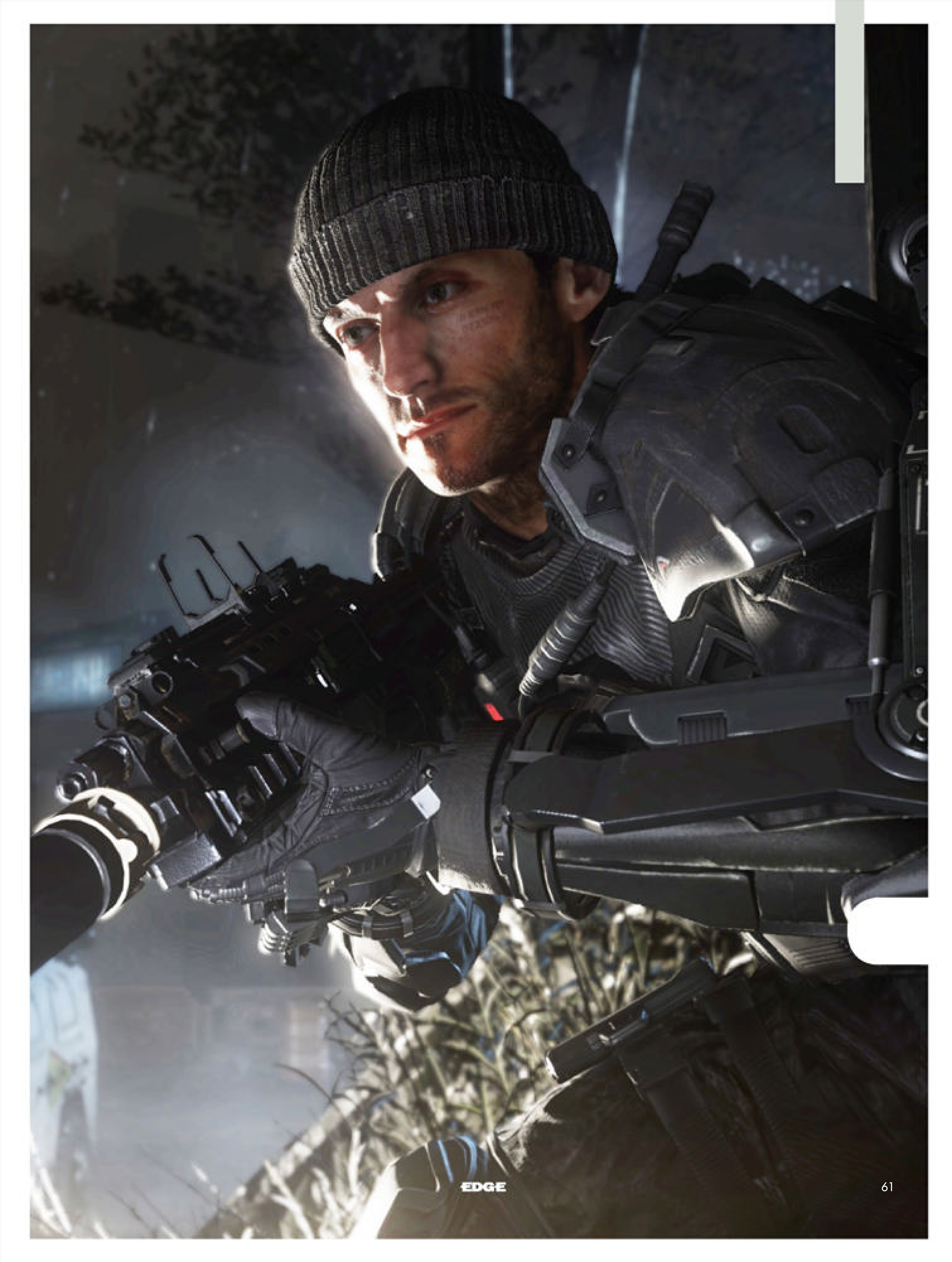


ABOVE **Sledgehammer insisted that the *Advanced Warfare* screen you see here was grabbed in a documentary style, a far cry from the conspicuously doctored, explosion-filled shots of previous reveals.**
RIGHT **The game's co-star, British special forces operative Gideon, functions as something of a guide, explaining the complex politics and history of 2054. He also swears a lot**

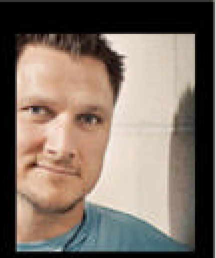


Glen Schofield, co-founder of Sledgehammer and the studio's chief executive





FACE TIME



Animation director **Chris Stone** is planning a performance-capture session for Kevin Spacey. "This is going to be our third epic shoot," he says. "He's definitely the biggest name I've ever had the luck to shoot with."

Stone was Visceral's animation director for eight years, but performance capture technology has come a long way since he joined the *Dead Space* team. "I've been shooting motion capture for probably going on 12 years now. It started out really rough, painful – you'd have to imagine what it was going to look like. But when we shoot performance capture now, we have the virtual sets there that the talent can see while we're shooting. Our capture technology is brand-new HD camera tech that they came up with in this last year, and it's what James Cameron is going to be using in Avatar 2."

Sledgehammer has captured each actor pulling a preselected range of facial expressions to build a working muscle framework for each face. The range started with a few dozen, but now runs to well over 200 – more in Spacey's case. "These facial scans look at every sort of muscle crease, every expression that he could possibly make," Stone says. "With traditional performance capture, you can move points on the face, but there's never a way to have a swelling of the lips or a volume change. The beauty of the muscle simulation is every single point on the face moves, not 30 or 24 or any random [arbitrary] number; it's every single part of his face moving."

The studio will fall back to a prerendered solution in between-level cinematics, though, because for all the power of new console hardware, it still can't match a render farm. "We're going to avoid any sort of disconnect, because our characters will look the same [prerendered]," Stone says. "It's mostly about resolution. Game consoles still aren't rendering for hours to make a single frame. Until game consoles get to that point, there's always going to be things we can do [prerendered that we ordinarily can't.]"

So nostrils will flare, eyebrows will raise, and foreheads will wrinkle, but will anyone notice? "It's funny, because I think if you ask someone, they might not be able to sit down and tell you it was the crease in the corner of his eye that made it look real… I think most players don't necessarily know what's wrong when it's not right, but they know when it is right."

to mine the moon. You tell that to fans or non-fans and they say, 'Is that science fiction?' But that could be three years from now. It's all closer than we think."

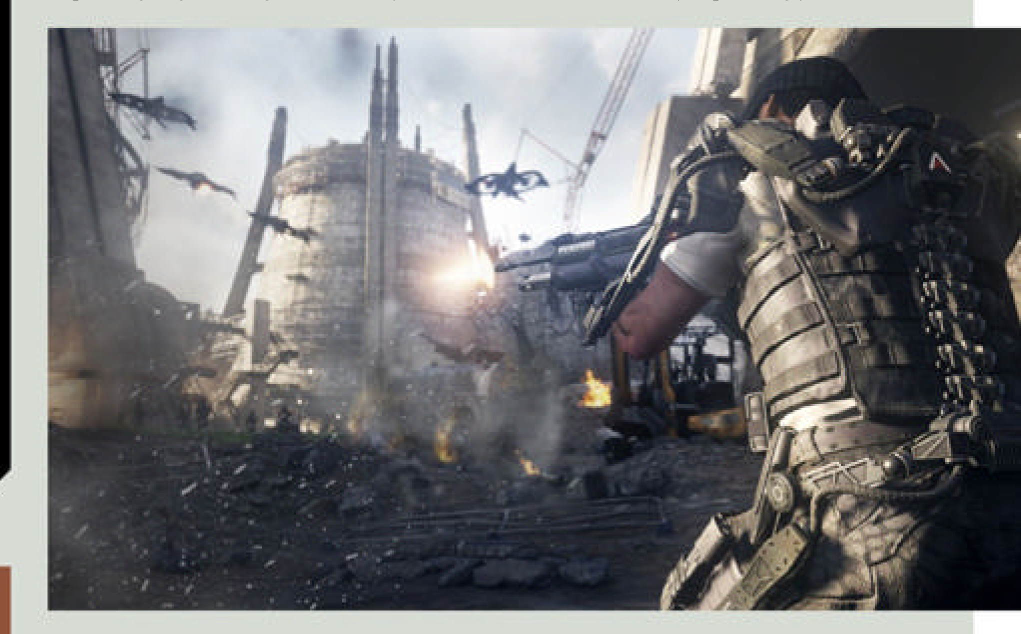
There are no sudden cataclysms or technological advances over the next 40 years in *Advanced Warfare*'s timeline. Instead, technology has moved on at a steady pace: batteries have greater capacity, power is largely provided by fission and fusion, and an AK-47 kills people as effectively in 2054 as it did in 1949. The basic business of putting an explosion behind a piece of metal and propelling it into a target has changed little, but the means of identifying targets has. Sonar replaces night vision on the EXO suit, and smart sights identify threats and highlight them on your HUD.

Vehicles will change, too. *Advanced Warfare* has hovering bikes and tanks, mobile barricade systems, one-man armoured tanks and six-legged walking armour, which Schofield conceived and Condrey mocked until the pair visited NASA, where a similar design has been prototyped to mine asteroids. "I gave him so much crap over it," Condrey says. "It felt too science fiction to me. Yet every day we find out this stuff is real."

EMP, homing and scanner grenades are new weapons in your arsenal, disabling enemy EXO functions, chasing enemies down or painting targets in augmented reality, respectively. Directed energy weapons are again ripped from technology today. Lasers and railguns mounted on battleships are miniaturised and placed in soldiers' hands, used to melt drone armour or propel a sniper bullet at seven times the speed of sound.

It's the aircraft carrier's industrial-sized railguns that KVA forces are looking to seize after collapsing the Golden Gate Bridge and immobilising the ship. Following the west's legacy of greed and exploitation of smaller Middle Eastern and African nations, soldiers from Eastern Europe and across the exploited regions form an anti-west faction to defend those nations' interests. The KVA's zealots go quickly off the rails, however, pursuing their objectives through attacks on civilians, making them the primary antagonists.

At Fleet Week, an entire carrier group is the KVA's target. In the second of *Advanced Warfare*'s demo missions, the fight continues as Atlas forces climb down the ruins of the bridge and battle on the carrier's deck, where the ship's arsenal is being directed at the fleet. It's an open map with multiple enemy-controlled railguns to jam, making for a large-scale twist on *Call Of Duty*'s classic destroy-the-AA-guns template. Much of the deck has been smashed by falling stone and steel, but it's still full of elevated landing pads and towering vantage points that can be navigated with the EXO boost jump, letting you take on





the guns how you please. There are more missions, or parts of missions, like this: combat 'bowls' into which enemies pour while players improvise their path through.

"We'll give you options," Schofield says. "[In a mission from the trailer], you can run and gun your way down the street, or you can jump in a one-man tank, or use a mobile barricade. We allow you to do multiple things [with your EXO suit] in a level, and you have to allow the player the freedom to do those things. I remember a game by Rare, *Jet Force Gemini*, and just the amount of work it must have taken to make those levels playable with three characters. That's the way you have to think about some of these levels if you're going to have multiple mechanics and give players choice."

"If we're going to have a level that's very linear and cinematic and fast-paced, I want to balance it out with a level that has a lot of openness, exploration and player choice," Robbins says. "In the campaign, we bounce back and forth so you're getting different experiences. There are some that are still fairly traditional and there are some that are pretty different in the way they're structured, [but] you're always going to be on our script, and you're going to be hearing our story, which is – if we do our job right – going to be a great story, and we want you to hear it."

Playing to a script is *COD*'s way, of course. "Let's say you're talking to Kevin Spacey," says Schofield. "We don't want you bouncing around the world while turning invisible." But here that script has more room for improvisation. An *Advanced Warfare* level could be torn straight from the series' level design handbook, but the EXO suit changes the tactics. As Atlas forces assault the deck, say, they take to the high ground to get a clear angle on the battlefield before dropping into the ship's lower levels and using marker grenades to tag enemies in cover.

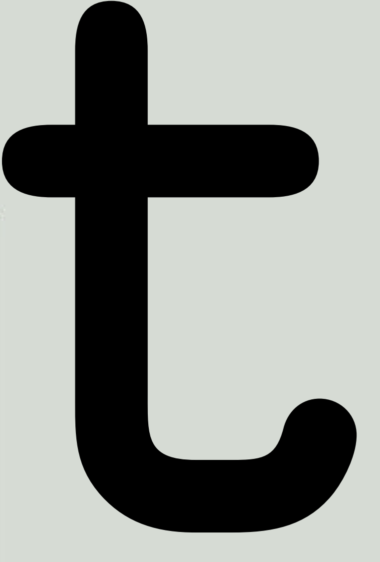
"It felt too science fiction to me. Yet every day we find out that this stuff is real"

Fighting deeper into the ship, the mission turns linear when the Atlas operatives take over the bridge and turn the railguns against the cargo ships the KVA have used to stage their assault. "Talking with our military futurists, right now we're very concerned by weapons being built that will fit inside cargo containers," Schofield says. "Everything from how the bridge goes down to using cargo ships as a weapon is all based on stuff that we've researched. I know it's kind of a weird genre, but I like to think of it as a believable near-future story, and not really, say, sci-fi." ▶

Advanced Warfare gives you most of the abilities of a *Crysis* Nanosuit – speed, strength, cloak – but with none of the enhanced armour. Veteran difficulty will still be a meat grinder

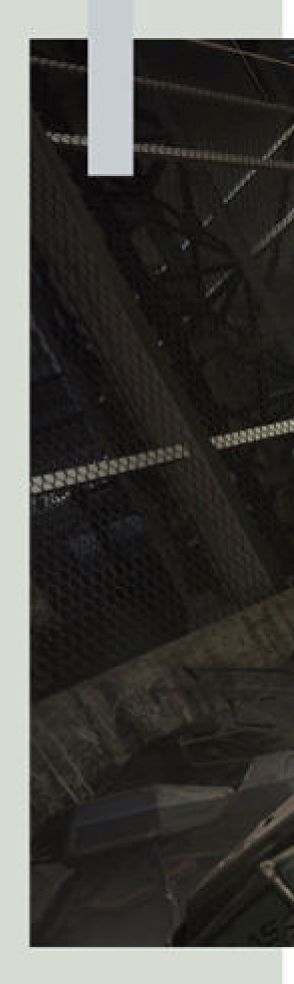


Advanced Warfare's costume work operates at a level of detail that we suspect few will notice. Still, when photorealism is the benchmark, every part of every object needs to stand up to intense scrutiny



he original Sledgehammer mandate was to create a story-driven *COD* – something like *Dead Space* – and while that project was cancelled in favour of what became *Modern Warfare 3*, the notion has survived to inform *Advanced Warfare*. "The creative team here deconstructed *Call Of Duty* cutscenes to figure out how we make this an opportunity to tell a better story," Robbins says. "They came back and said, 'Look, cutscenes in *Call Of Duty* [have] been largely mission objectives over pretty graphics.' "

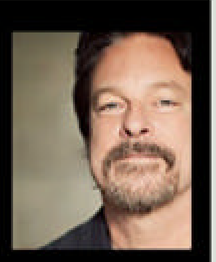
"Going deeper than that," Schofield says, "let's say a loading cinematic was a minute long... [then] we would find that 45 seconds of it would be trying to tell you the objective, and then 15 seconds at the end was the story. After 30 seconds, players can skip it, so they were actually missing the story beats. They would come back and say, 'Your story sucked.' We're not blaming them; we're saying we have to find a way to keep them engaged and [to] want to watch the rest of the movie."





Stealth and flanking works when there's room for it. A fourth mission, shown to us confidentially, demonstrates the full suite of the EXO's stealth capabilities and the power of the new engine to pull visual tricks on players expecting the dubious backdrops and skyboxes that propped up a generation of shooters

A SOUND OF THUNDER



When you fire a gun, your whole body becomes a speaker. "It goes through your body, into your bones, and your skull. You hear it in your ear, and it sounds completely different," audio director **Don Veca** says. "No matter where you put the microphones, you're not going to capture that sound, so we've tried to emulate that feeling."

Compared to *Modern Warfare 3*, *Advanced Warfare*'s guns sound like the end of the world. Pull the trigger and a shot thunders from the gun in an audio explosion of a dozen sounds that all work together to produce a gunshot you feel in your bones, with a reverberating report that lasts long after the shot was fired. This is what the new generation means to sound design for Veca, whose work on *Dead Space* won the game a BAFTA and 20 other awards for audio.

"[On 360 and PS3] we are so limited by memory," Veca says. "We have ten times the memory now, so we wrote new code, new scripts and we used new sound design techniques. We want to make you feel like you're shooting, rather than listening to someone shoot."

But capturing the feel of real-world firearms wasn't the be-all and end-all of his task, with *Advanced Warfare*'s near-future setting demanding Veca's sound design expertise for the hundreds of fictional technologies in its 2050s. Drones, tanks, planes, cars and the new hoverbikes all needed sounds manufactured from scratch and powered by the new audio engine. "We knew we were going to do a lot of vehicles, and we knew we would have to go pretty deep with the audio," Veca says. "So a new vehicle manager system has been written too. It's constantly listening to the physical parameters – the space, how fast is it going, how are different forces at work? We're monitoring these forces and translating that to sounds… It's more of an adaptive system that responds to the real world."

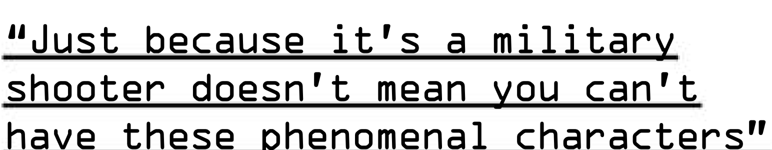
"Everyone knows we love audio," Glen Schofield says. "That's why we're spending so much time on sound. Part of it is that we've worked on plenty of teams where audio comes in last: 'We'll throw it in; don't worry about it.' We make sure that audio is just as important as anything else and Don's in there from the start with us. It's changed the way we have developed, because we make sure that it's not a last thought. We've been working the whole time on this stuff."

The hoverbikes are another piece of futuristic military hardware bearing the same 'miltech' look that art director Joe Salud finds so compelling. With hard angles and oblique surfaces, it's a look that's wholly functional but lacks conventional elegance

That burden rests on Kevin Spacey, *The Last Of Us* and *Bioshock Infinite* voice actor Troy Baker, and the next generation of performance capture. Schofield agrees cutscenes were out of style for a long time, but Sledgehammer looks to the likes of *The Last Of Us* as evidence that it's possible to draw players in with an involving story and an old-fashioned cinematic. "The kind of acting [we can capture] nowadays, even in scenes he's not in, Kevin has elevated our other actors," Schofield says. "And everybody wants to see great actors act."

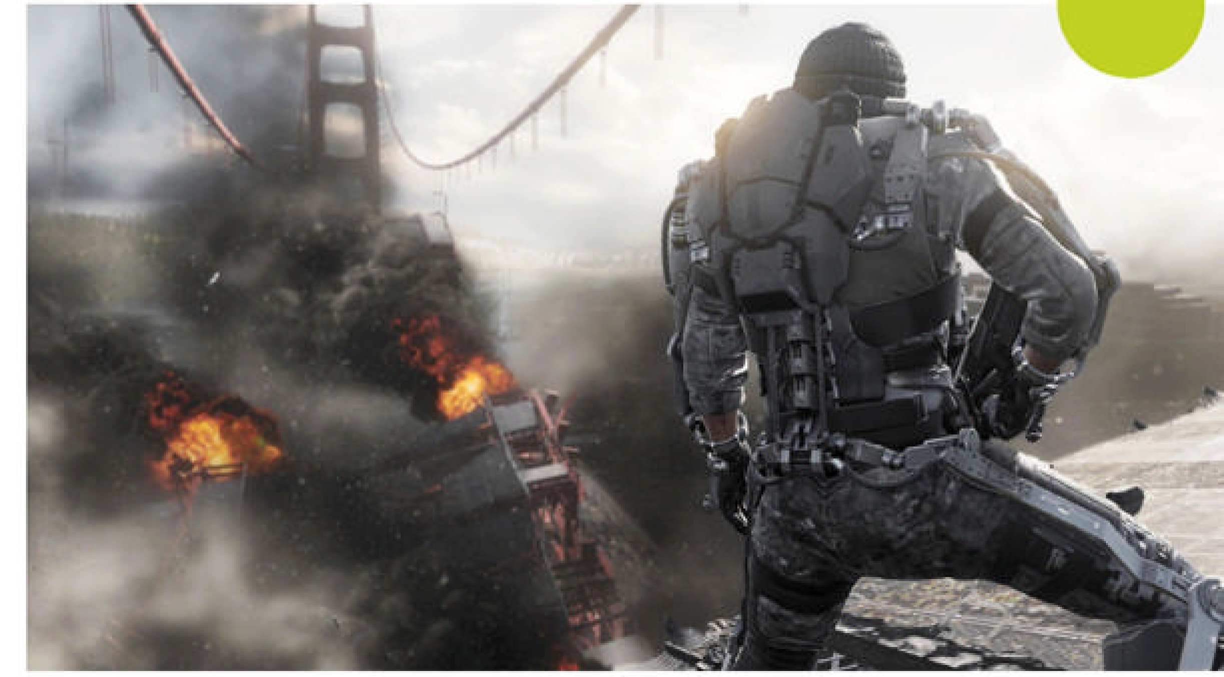
Spacey's Jonathan Irons founded Atlas to help in war-torn African nations, but his power has bred ambitions for conquest. The KVA also started out as a multinational force that opposed aggression, only turning to extremes as its enemies grew stronger. There's a moral ambiguity to the game's characters and factions, which feels new for what's often seen as a brainless series. "I just think there's such an opportunity to grow these characters in a way that you haven't seen in this franchise before," Robbins says. "And there was really no reason not to. Just because it's a military shooter doesn't mean you can't have these phenomenal, memorable characters."

Players will spend eight years in the boots of one soldier ("I'll admit I've had a hard time bouncing between five different characters across seven missions," Condrey says), fighting alongside a multinational Atlas force. British operator Gideon, played by longtime videogame and TV actor Gideon Emery, fights at Mitchell's side throughout the San Francisco missions and is the star of a lengthy walk-and-talk in the opening of a later Detroit mission.



Having been evacuated due to a biological attack, Detroit's citizens now live in an Atlas-guarded camp at the outskirts of the city, which Mitchell and Gideon pass through on their way into the powerless and pitch- ▶

ABOVE **Arriving in Detroit's refugee camps, armour details are illuminated under floodlights but never for long enough to study. This image, however, shows the care lavished on making every piece of the armour, and Gideon's woolly hat, flawless.**
RIGHT **The Golden Gate collapse is carnage at its most beautiful, but it represents more than a pretty cinematic. This is a *COD* with storytelling ambitions, one hoping to ground its wild ride in plausible science**



black centre. The glare of floodlights gives way to total darkness, and powering it all is a new engine developed in-house at Sledgehammer, although what the studio means by 'new' in this context isn't what the Internet means when it complains about the old *COD* engine. There are, says Condrey, lines of the old engine's code still in *Advanced Warfare,* just as there are in most studios' engines entering a new generation, but enough has been built from scratch to make it almost unrecognisable. "We have new rendering, animation, physics and audio systems. This is Sledgehammer's new *COD* engine," Condrey says. "The new tech that is driving our lighting and rendering engine couldn't have happened on last-generation [machines]. This is only possible now."

Sledgehammer set its sights on nothing short of photorealism for *Advanced Warfare*, and has managed to achieve it in many of its unprocessed in-engine shots. "We can take some of our shots of levels and they look real," Schofield says. "There are places – not everywhere – where we're not going too crazy and it's like, 'Is that a photo or not?'

"The big difference," he explains, "is that now we have material artists. Their job is to make the materials real. Now we have real chrome, not a painted silver texture that kind of looks like chrome; this is *chrome*, with all the properties of chrome. We have rubber, stone, asphalt. Now every texture has to have a material, so that when we light it, it behaves like it's real."

Art design in a physically rendered world is no longer about adorning maps with painted approximations of real materials. In *Advanced Warfare*, the surfaces are created more with maths than they are with artistic sensibility. As the studio moved over to the new system, many of the team's texture painters struggled to adjust. "Last-generation [artists] would paint a texture, look at it and say, 'That looks like the right colour; that looks like dirt; that looks like concrete,'" art director **Joe Salud** says. "But now we use this thing – it looks like a stapler – that measures exactly the specular responses [of a surface], then we measure the base colour so we can get these results that are more scientific. Then we developed our engine to take all that information and output it. But artists [like to] paint, and there was a point where the most senior artists were having the hardest time adapting, because they had been doing it that way for ten years. Everything had to change, from the code to the pipeline to the process to the artists. It took a long time, and literally it was almost like a revolt [for a while]."

The artistry comes in with post-processing, lighting and something not too far from Hollywood set design. In Detroit, the Atlas team proceeds on hoverbikes into the empty, unlit city, where only a low-hanging moon illuminates the city's industrial ruins, with all of it framed to present the perfect postapocalyptic vista. As the soldiers hunt for a KVA cell, they venture into the city's manufacturing heartland and the game turns into one that's part stealth and part survival horror as KVA forces hunt Mitchell through the gutted structures. The mission ends with a scripted chase through the city as the KVA drive the Atlas troops back to the camp, where forces wearing the heavyweight version of the EXO suit return fire on the KVA with dual-wielded LMGs.

A three-year development cycle and a focus on PlayStation 4 and Xbox One has given Sledgehammer time for miniature revolutions, both in gameplay and among its art team. For the first time since *Call Of Duty 2*, the game is built with new hardware in mind – another Activision studio is producing a 360 and PS3 port. For the first time since *Call Of Duty 2*, then, the shackles are off, redefining even the most extreme and bombastic *Call Of Duty* set-pieces. ▶

"There are places – not everywhere – where we're not going too crazy and it's like, 'Is that a photo?'"

RECREATING REALITY



It might sound less artistic than painting a world, but shooting for reality isn't boring for *Advanced Warfare*'s creative team. "I get really excited about hitting reality, because it's like, 'Oh my God we're doing it,'" art director **Joe Salud** says. *Call Of Duty*'s switch to physically based rendering places it alongside *Ryse* and *Star Citizen* in embracing a new kind of art that some believe is the future standard of triple-A game visuals.

"[In our game], that's the physical material, that's the actual surface," he says. "Our shaders, our base textures: they all had to be physically based. Our lighting had to be physical, and then we had to bring in [high dynamic range]. And since we've captured everything in HDR, we can ramp the exposure up and down, and it behaves just like a camera would in the movies.

"Reality is your baseline here, but that doesn't mean reality is what you're putting onscreen. You can still be stylised with it and you can still present a heightened reality. When you're distanced from something, whether it's a controller or movie theatre, you need more impact. Reality alone isn't enough. You need to enhance the world, make it jump off the screen somewhere. The other part that gives me [a sense of] expression is our design – designing the characters, the weapons, the vehicles. That's our thing, and I feel our team is really good at that."

Developing future technologies and talking with special forces led Salud's team to invent solutions to real-world problems, such as the '3D Printer Gun', which is designed to manufacture ammunition on the fly from lightweight canisters of liquid metal. But the bulk of artistic development time and effort was invested in the game's signature EXO suits.

"We had hundreds and hundreds of iterations," Salud says. "We think about how it articulates, moves and functions. It took like a year just to design it, because everybody is a critic [and we needed different generations]. When it first starts out, it's going to be bulkier. It has a whole fictional history [attached].

"The art is not necessarily on the granularity of the actual material, but in the design of what we're actually making. We've become like guys who design chairs… We're not making the leather any more, but we're still designing everything about the chair. That's actually where the real art is."



TECH SPECS

The studio won't talk many specifics until the PR calendar is right, but with a boost jump, cloak, grapple and smart sights added to the list of possible perks and attachments, *Advanced Warfare*'s multiplayer is sure to be a different kind of game. While those EXO tricks will be used in scripted moments in the campaign, they've been built as systems in themselves and will work anywhere.

"There are certainly systematic EXO mechanics," Condrey says. "That's the foundation of multiplayer, right? [It's] all about player systems. I can't confirm anything that's in multiplayer, but everything you've seen… you can imagine applying those opportunities to multiplayer. Now you're talking about localised EMPs, you're knocking out someone's exoskeleton, taking somebody's optics offline, or disabling their weapon. It means very different sorts of [fights], and it's a lot of fun.

"There's a brand-new parabolic microphone attachment that allows you to identify threats even if they have suppressors, and it's only in because there's this new tech that's in the battlefield today… It's kind of a pretty micro-detail, but layer that by about a hundred of these opportunities and you get different engagements."

"I remember saying, 'Do you think we could blow up the Golden Gate bridge?'" Schofield recalls. "On [prior-gen hardware] we'd have thought, 'Yeah, probably. Well, the aircraft carrier would have to be fogged out, and we probably couldn't do it in daylight.' Developing [for PS4 and Xbox One] pretty much said to us [that] we can do anything we want. There were just no constraints – that was so big."

"That was liberating," Condrey says. "The opportunity for each discipline to build these new engines for audio, physics, lighting, rendering… It's allowed us to take chances, take risks and invest in R&D that we wouldn't have been able to do if we had been strained by worrying about the [prior-gen] version. We had to get the team to embrace the fact that they didn't have to say, 'We can't do this on last-generation [consoles].' In fact, whenever that was the answer, we immediately said, 'No, focus on the potential of the next gen.' That allowed us to do things on bigger scales, with larger levels and higher degrees of resolution and density. It's awesome."

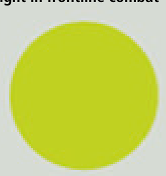
"We knew the fidelity was going to be a lot higher," Robbins says. "We knew we could do bigger scenes, show bigger areas, have more combatants… The obvious stuff I think we delivered on. But beyond that, we still have to make a great shooter. And it has to be a great *Call Of Duty*."

Sledgehammer is pushing at Call Of Duty's unwritten laws in new ways, but some things just can't change

It's that final point where some players will sign out, but where others will be thrilled. Sledgehammer is pushing at *Call Of Duty*'s unwritten laws in new ways, but some things just can't change. The bikes hover and the tanks walk at speeds measured in miles per hour, travelling down roads designed to lead players through the kind of thrill ride *Call Of Duty* has owned for the best part of a decade. It's a ride many have taken ten times already, even before exploring the expansions and DLC, but for 40 million players it's a ride worth taking again.

"I think there's something as a *Call Of Duty* fan that I've felt for a decade, and it's a love for a really well-crafted *Call Of Duty* experience," Condrey says. "I think the next-gen [consoles] allow us to deliver that experience to a higher fidelity in a more interactive and innovative way. As a fan, I absolutely think that's something players want. I think you have to balance that with innovating in a way that people think is new and interesting that they haven't seen before, but, to me, when I think of the great levels in *Call Of Duty* that stand out, a next generation execution on a feeling like that… I want that as a player." ■

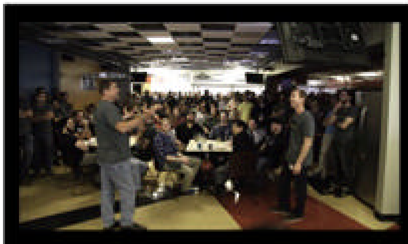
ABOVE **Chaos hits the streets of Lagos. *Advanced Warfare*'s sprawling multinational story takes players on a tour of the few locations *Call Of Duty* has yet to blow up.**
RIGHT **The heavyweight version of the EXO suit turns a man into a slow but powerful walking tank. It's used to guard outposts, not fight in frontline combat**







FOG OF WAR



The plausibility of *Advanced Warfare* is talked up so much by the studio thanks in part to its jaunt into the future, but also because of the deep respect it has for *Call Of Duty 4*.

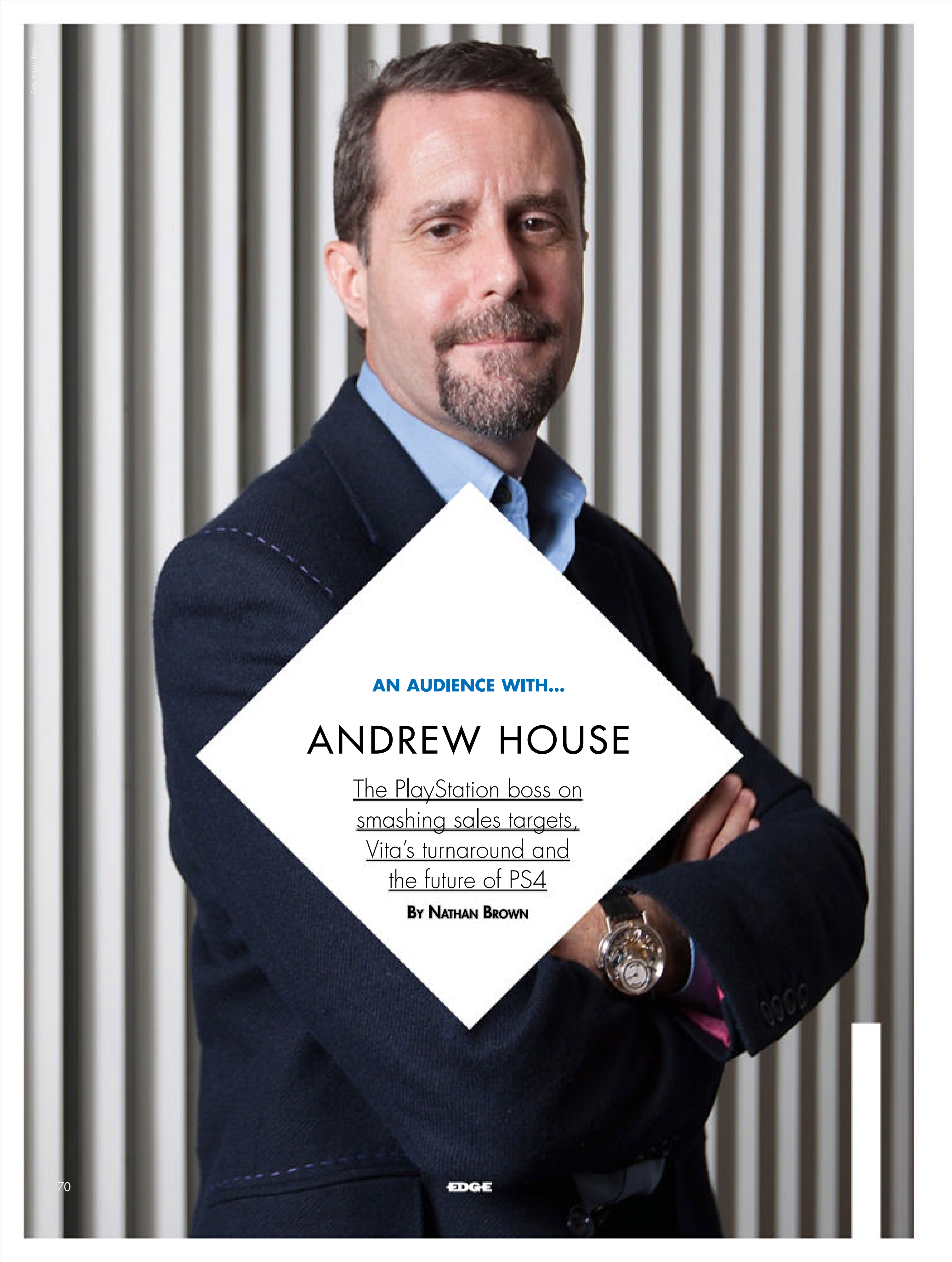
"At that point, we were all making games," says Schofield, who was developing the first *Dead Space* when *Modern Warfare* was released. "But we played it and we were like, 'All right, well, let's go back to the drawing board.' I wanted you to feel like you're really in those places, like they did."

"The game is at the top of almost every developer's list," Condrey says. "It's the perfect intersection of art, design and audio. You know when you're just crawling through the grass and all you have to do is crawl… [It's] a simple mechanic we've used a billion times, but you're so scared when the troops are coming down on you. We still look for those opportunities."

Sledgehammer has had a chance to develop a *Call Of Duty* of its own already, of course. The division of labour on *Modern Warfare 3* is anything but clear – Sledgehammer and the shattered Infinity Ward handled various parts alongside Raven and Neversoft – but the game changed the studio's direction. Sledgehammer had, in the six months before starting *Modern Warfare 3*, produced a prototype of *Fog Of War*, a thirdperson game set in Vietnam, bearing the *Call Of Duty* name and drawing on the expertise Schofield and Condrey's team showed on *Dead Space*.

"When we came on board, we all agreed that we were going to make a thirdperson *Call Of Duty* game," says Condrey. "That included [the focus on] story. They [Activision's representatives] were all big fans [of Visceral's games], and at the time it was like, 'Can we make something like that with *Call Of Duty*?' So we spent a lot of time with it. The reason why we got *Modern Warfare 3*, I believe, is based on what we did in those first six months. It was story-based, high quality, produced at speed and our own take on *COD*, and now we get to realise that in the firstperson space."

There are hallmarks of Visceral's work in *Advanced Warfare* and at Sledgehammer. Condrey: "We've come from publishers who mandated, 'Everyone's on this tack, and you are all going to work this way.' Activision is not about that at all. We were stunned. They firmly believe that independent studios is the right way. Treyarch makes great games, but they work differently to us. Infinity Ward has a different methodology that's got them great results. We have our style, and we're all inspired by what others do better than us."



AN AUDIENCE WITH…

ANDREW HOUSE

The PlayStation boss on smashing sales targets, Vita's turnaround and the future of PS4

By Nathan Brown

Andrew House joined Sony in 1990, and became part of the PlayStation division at the very beginning in 1995. After nearly a quarter of a century at the company, he has risen to president and group CEO of Sony Computer Entertainment, and recently helped to bring about the remarkable transformation of the PlayStation business that has seen PS4 surge to an early lead over Xbox One. Ahead of Develop in July – where he and Mark Cerny will discuss the past, present and future of PlayStation – we catch up with House to reflect on PS4's flying start, Japan, and the perils of working for a boss who used to do your job.

PS4 passed seven million consoles sold recently. How does that stack up against your initial expectations?
Massively beyond them. Back in September, I'd laid out a goal of selling in [to retailers] five million units within the fiscal [year, ending March 31]. For us to surpass that by a very large chunk – and, indeed, to sell those units through to consumers – has just been a phenomenal response, for which we are enormously grateful. We are substantially ahead of the adoption curve for PS2 at the same time in its lifecycle, which obviously bodes extremely well. And we're almost at a point where we're struggling, really, to meet demand. I think that's continued right through from launch. Having said that, we were able to address a very wide geographical market, which we thought was important. One of PlayStation's strengths is that it's such a strong brand in Europe, and in places like the Middle East and East Asia. We wanted, really, to draw a balance between maintaining good solid supply – which has been very challenging – but also making the platform as widely available to as many consumers as we could around the world.

Yet you launched last in Japan. That seems like an unusual decision for a Japanese company.
It was a hard decision to make. I'll be frank with you and say that we took a lot of... I wouldn't say criticism, but disappointment, which was expressed fairly [strongly] by the Japanese gamer community. And that's always very hard when you know you are, if only for a few months, disappointing a very eager and loyal audience. But we felt that it was very important to establish a really strong baseline of content for a new platform, including content coming from Japanese publishers and developers, which was due just a little bit later than it was for some of the US and European [companies]. And we felt it was important that, if the platform was going to have a good solid start in our home base country, we had to launch when we could see a roadmap of good content, and I think the initial launch numbers and the continued sales in Japan have borne out the sensibleness of that decision.

There's been a shift away from home consoles in Japan. Does living-room-based hardware still matter there, or has mobile gaming taken over completely?
Obviously mobile gaming has become very prominent. I think consoles still have a very strong point of relevance, but that relevance is going to be defined by content, and by the social experience around console gaming. When I fired up my PS4 at home right after the Japanese launch, I could immediately see people online sharing gameplay, lots of Japanese commentary – the same sort of activity around PS4 as we saw everywhere else in the world. What's also been really pleasing is that the initial audience that's buying PS4 in Japan is much younger than we'd first anticipated. We're seeing a sweet spot anywhere from the mid-to-late teens through to the mid-20s, and that is considerably younger than where we've seen consoles traditionally being played in Japan. It says to me that there is the opportunity for a revival of console gaming for a whole new audience.

You've been with Sony for almost 25 years, and worked on PlayStation since the beginning. How does a Welshman with an English degree end up working for Sony in Tokyo?
I put my gaming history back a little bit further than that. I cut my teeth on *Defender* during a misspent youth in the arcades of Weston-Super-Mare, when my parents thought I was at band practice. My only gaming claim to fame is actually having beaten *Defender* on one 10p piece back in the day. I certainly don't have the skill and reaction times any more, but I still cling on to my youth.

I was working in communications for Sony corporate [when PlayStation began], and I actually volunteered for the project at a time when there weren't that many takers within Sony. It was felt to be rather like a toy, and was seen as a venture that was going up against very entrenched competition. There was, I think, a considerable amount of scepticism. But I had the privilege of meeting [Ken] Kutaragi, [Terry] Tokunaka and Akira [Sato], the founders, very early on in the project, and was just absolutely convinced that the platform they were developing and the reinvention of the business model they were undertaking had the ▶



With over seven million units sold, PS4 has flown past Sony's sales forecast of five million units shipped. That figure would have put it on par with Xbox One, which had 5.1 million consoles sent to retail by March

CV

Oxford graduate House joined Sony back in 1990, working in corporate communications before joining the PlayStation team in 1995. A year later, he helped launch PlayStation in the United States as VP of marketing at SCEA, and during his six-year tenure he also headed up thirdparty relations and developer support. After a stint as executive vice president, he returned to Tokyo to serve as chief marketing officer. In 2009, he became president in charge of the PlayStation business across Europe, Africa, Australia and the Middle East. That remit became global in 2011, when he succeeded Kaz Hirai as group CEO of SCE International.

Vita's slow start had many proclaiming its death, but PS4 Remote Play and free games through PS Plus have done much to justify its existence. In Japan, it jostles for position with 3DS in the top-selling hardware charts weekly



opportunity to change the game market, and [that they] were pointing the way to a whole different form of home entertainment. I think I made the right bet.

How does the Sony of today compare to the company back then? What internal changes had to be made in order to create PS4?

I like to think there's a new generation of leadership at the company. I would point to Mark Cerny and myself, and Shuhei Yoshida – and also Masayasu Ito, who runs the business division – as sort of the core of that. Among the four of us, there was a realisation of the need for an absolutely renewed focus on the gamer and, by extension, the developer. We are at our best at Sony when we [focus on that]. I think the combination of someone with a very strong developer focus [in Cerny], someone whose background has come through consumer marketing in terms of myself, and someone who lives and breathes today's content creation in Yoshida – coupled with an engineering team that was willing to take risks and to put aside the past and do something very different – is really the combination that's brought about the PlayStation 4 that you see.

Does it help having, in Kaz Hirai, a CEO who understands both the console business as a whole and what PlayStation needs?

Well, it's both a help and, I have to say, sometimes a curse. When you're giving presentations to a boss that has held your role previously, you [get] an awful lot more detailed questions than you'd get from other CEOs. Joking aside, Kaz having come through the PlayStation organisation and understanding the fundamentals of what makes a strong platform has been enormously helpful in supporting our efforts.

The result, of course, is that PS4 is flying. Can you pinpoint the key decisions you made that brought it such instant success?

One was – and we did, if not agonise, then give an awful lot of consideration to this – the degree to which we incorporated the Share button, placing a lot of emphasis on broadcasting and sharing. Similarly, with considerable financial implications, doubling the size of the core memory was a very hard-fought decision. Mark and myself and Ito were just convinced that this would be the step change. It was an absolutely fundamental example of where we really did listen to what developers were telling us [about] what they needed for their games to sing, and we responded in kind.

> "WITH REMOTE PLAY, VITA HAS NOW ESSENTIALLY BECOME AN EXTENDER OR AN ENHANCER FOR THE MAIN PLATFORM"

But how many of them will need it all? Epic CTO Tim Sweeney says the coming generation will see a third of the number of triple-A games that we saw in the previous generation. Does that stack up with your strategy? Indies are more important than ever, but it's still blockbusters that sell consoles, surely?

I think both are absolutely important to having a vibrant ecosystem. Looking at the first year of both new IP and triple-A content [on PS4], it certainly seems to be on par with, if not substantially above, what we saw in the initial year or two of PS3. I'm not sure I agree [with Sweeney]. There is definitely a concentration on a smaller number of much more pervasive and powerful franchises, but that's why we've put so much emphasis on reaching out to independent talent, taking advantage of the fact that for the first time we have a very vibrant [and] connected community. It's an opportunity to lower the barrier to entry by delivering games digitally, and to showcase new IP and new franchises from brand-new developers. All of which feeds into an ecosystem that really should allow new talent to emerge within the industry as much as it should for large franchises to dominate at the top end.

PlayStation Plus might be your biggest competitive advantage over Xbox One. Was there not a concern when it was mooted that it might be too generous?

I think we realised fairly early on that there was an inherent retention opportunity there, selfishly; if people were able to build up a library over time, [then] that would encourage them to stay part of the programme. But I think we recognised, since we launched PS Plus a significant degree of time after our competitor, that we had to work harder. We had to build a proposition that was more content-based, that wasn't reliant on a single feature like online multiplayer, and I think that just made us work harder.

What we did monitor very carefully was how making games available free of charge to a very engaged audience was having a positive effect on sales through word of mouth. That helps in getting publishers and other developers on board. [We can tell them that] giving IP away for free would actually be a net positive, since it

would drive word of mouth and additional sales for your games to an even wider audience.

So much attention has been paid to PS4 that Vita has been overlooked in recent months. Those who have one tend to love it, but how do you get it into more hands? What does it take to market a gaming handheld these days?

Well, the first market that I would point to is Japan, where the dedicated portable market has always been very strong. We're really encouraged to see the start of a very positive spiral in the Japanese market around Vita. Weekly sales are getting to that point where we can really see that this is a platform that has got some legs. That, definitely, is having an effect on the Japanese publishing and development community.

Overseas is more challenging. That said, we've taken a more holistic view with our platforms. With Remote Play, Vita has now essentially become an extender or an enhancer for the main platform for other rooms in the house, or when someone else wants to use the main screen. As the lifecycle of the platform progresses, there's an opportunity to position Vita for a younger audience as well with the appropriate franchises.

And it's becoming a very accessible and easy on-ramp for independent developers, those who have had some success in the mobile space and now want to work on games that are that little bit richer, that have a more dedicated gaming interface. And we're certainly seeing Vita being embraced by that community very strongly.

You announced the streaming service PlayStation Now earlier this year. Is that meant to add value to PS4 and Vita, or is it more about reaching other screens and other people?

I think it's the latter. It's [about] trying to broaden out to audiences that perhaps have not embraced a console before – to deliver really great console-level gaming experiences with the convenience of a device that they already own. It's a longterm strategy, and it's one that we will undertake very carefully. Distribution shifts and streaming have transformed the way that other entertainment content businesses operate. We think that there's a responsibility to take an industry leadership stance and have that transformation happen in the best interests of the consumer.

You also have a responsibility to make sure it's done right. It's a big technical challenge, isn't it?

Absolutely, and it [needs] considerable server investment. We felt that the guys at Gaikai brought some significant technical and industry know-how, and that's why we were keen to partner with them. I think the first fruits of that for us have been Remote Play, which grew out of technology that the Gaikai guys had developed. That is, I think, a harbinger of where we will be able to take the business once the technologies come more fully online.

E3 2014 is almost upon us now. Last year's was a dream event for Sony, but do you think you can ever have another E3 like that?

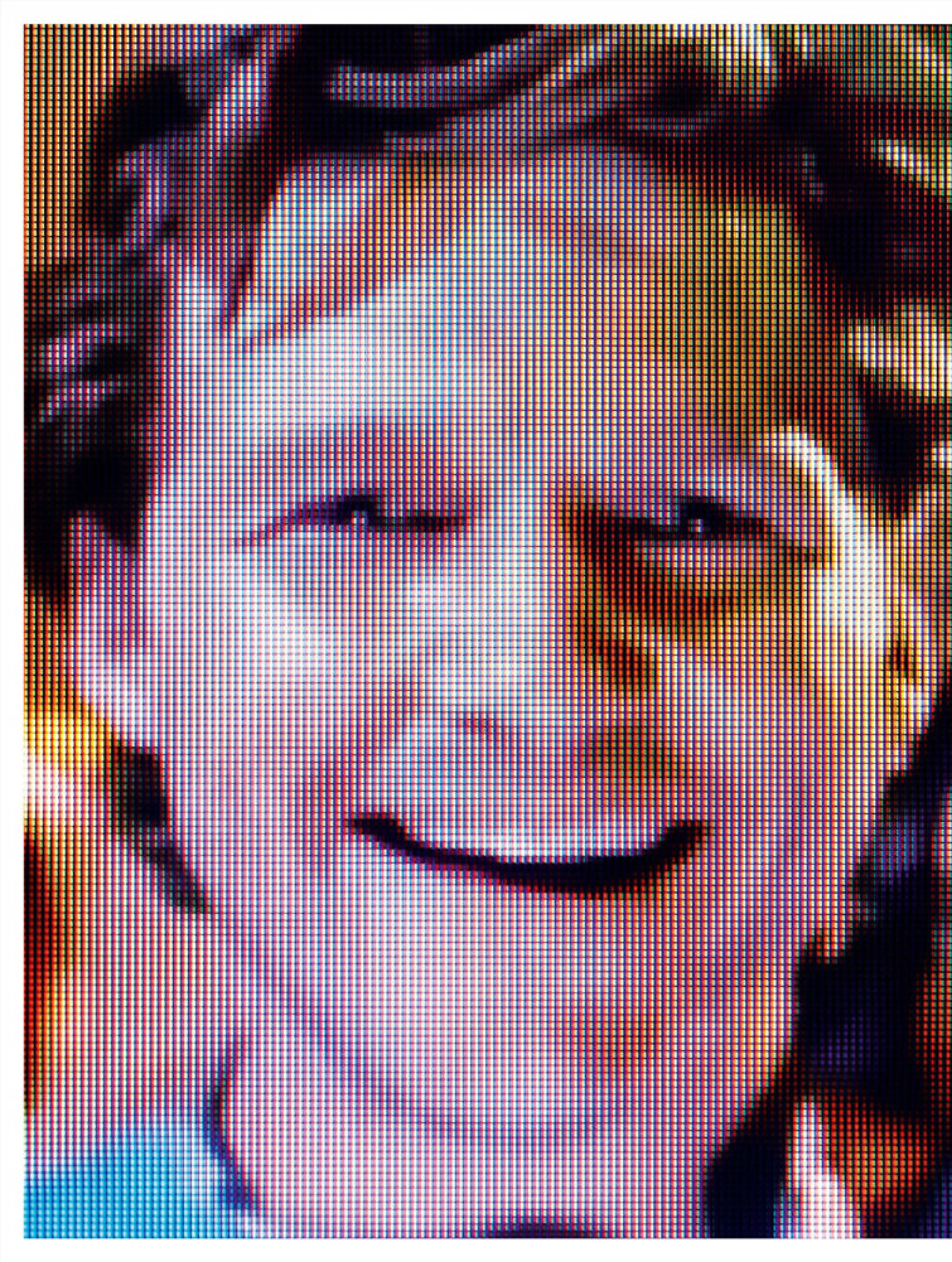
I think that was a very special moment in time. It's going to be extremely challenging to surpass the levels of excitement that we had last year. What I hope we'll do at E3 this year is get people very excited about where PS4 is headed. We've got some great games [and] some great franchises that are coming to the platform that'll keep people excited about PlayStation 4, or will be the prompt that'll bring new people on board.

Microsoft's misjudged policies played quite a role in your success last year, but the company has changed enormously since, along with Xbox One itself. What's your view of your closest competitor now?

I really don't think it's my place to comment on someone else's strategy or leadership. It's a cliché, but it's a truism: our focus is going to be absolutely on PS4. [We're] keeping a steadfast focus on the gamer and the developer that builds those games for that audience, [and] being sure that we are the best place to play. I think we will see a broader reach of entertainment on our platform as well, but first and foremost it has to be about great games. That's what we've been in the business of doing for 20 years now, and we're absolutely committed to ensuring that we deliver the best. ■

Press Association Images

With no new hardware to show off and Microsoft unlikely to repeat last year's mistakes, House and team will have to work a little harder at this year's E3. Games will be the primary focus, but expect streaming service PlayStation Now to feature heavily



SHALL WE PLAY A GAME?

From Tron to Her: the fake videogames Hollywood uses to deliver real messages

By Jamie Russell



Blame it on Pac-Man. In the early '80s, the dot-gobbling yellow circle took America by storm. Quarters were pumped into machines across the land, and manufacturer Midway coined it in. *Pac-Man* made so much money – raking in an estimated 7 billion coins by 1982 – that it dwarfed even movie blockbusters like Superman II.

A klaxon went off in the boardrooms of movie studios. Suddenly, videogames were on the agenda. "It made them all look up from their lattes with avarice in their eyes," says screenwriter **Jonathan Betuel**, who'd make his mark with Universal's The Last Starfighter in 1984. Desperate to cash in on the fact that the USA had become, in the words of one Atari VCS programmer, "the *Pac-Man* nation", the movie industry scrambled to get a piece of the action.

Theatre chains shipped in arcade cabinets for their lobbies. Studios such as Fox and Universal set up their own videogame divisions. But the biggest response was what began to be shown on cinema screens. Faced with a nation hooked on arcade cabinets and home consoles, the studios began to commission material that would reflect the craze.

If the kids wanted videogames, the unspoken logic went, then the movies would give them videogames like they'd never seen before. Hollywood, the world's dream factory, was going to give players a glimpse of the future.

"*Space Paranoids* was just such a great name for a game," remembers VFX guru **Richard Taylor**, who worked on Disney's groundbreaking Tron (1982). "It's like: 'What? What the hell is that? I'd like to play that game. Where is it?'"

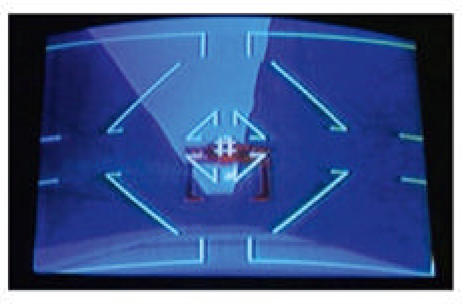
Tron revolutionised the special effects industry with its CGI-heavy exploration of the Grid, but it was also the first flick to truly reflect how American pop culture was being changed by games. Its hero, Kevin Flynn (Jeff Bridges), is a software engineer who we meet in an arcade, playing *Space Paranoids*, a fast-paced *Battlezone*-style shooter we're told he built himself, and which boasts visuals that are leagues ahead of anything else from the real-life arcade scene of the era.

"At the time, videogames were *Asteroids* and *Pong*," says Taylor. "[They] were very naïve stuff – lots of vector graphics and schematic in their gameplay. You'd be looking down on a flat plane and going through mazes. Lots of arcade games were analogue, not digital, and so the imagery that could be created in realtime by those systems was limited."



After Tron's producers shipped in dozens of real-life cabinets to get the cast in the mood, Jeff Bridges got hooked on *BattleZone*. "They would come and try to yank me away. I'd say, 'I'm preparing. I'm preparing'"





Space Paranoids blew that apart. Glimpsed for just a few seconds near the start of the movie, it wasn't really a game but prerendered computer animation using fully shaded 3D objects. "What you saw in the movie was a monitor – a 525-line monitor, this was before HD – built into the arcade cabinet and frame synced with the camera so you wouldn't see any rolling or anything like that," Taylor explains. "It wasn't really a complete game, nor was there a design for *Space Paranoids*."

Space Paranoids looked like a missive from the future of games, which was the point, of course

It may have been totally fabricated, but it looked like a missive from the future of games, which was the point, of course. "What we were trying to project was a sense of the future, of what was coming," says Taylor. "People saw it and said, 'I want to play a game like that. It looks much more fun than *Pong* or something.'"

Tron marked the first time videogaming – as both a pursuit and an industry – had been taken seriously in a movie. It was what many had been waiting for: a showcase for, and validation of, their pastime that didn't come from Electronic Games magazine, but rather from the unfettered imagination of Hollywood.





RIGHT **007 swapped his Walther PPK for a *Tempest*-style deathmatch in the non-canon Bond outing Never Say Never Again**

Soon after, videogame culture had become cinema's hot topic, sending movie execs into action. There was a sense that the world was changing, and Hollywood couldn't wait to reflect the upheaval happening beyond the theatre's walls. Even James Bond got to play games onscreen when Sean Connery's spy took on villain Maximilian Largo (Klaus Maria Brandauer) in a *Tempest*-style game of global war called *Domination* in Never Say Never Again (1983). This being a high-stakes spy film, the losing player also received an electric shock from the joysticks.







Ronald Reagan believed that Atari games would train the next generation of US fighter pilots. The Last Starfighter's conceit transplanted that idea into deep space to deliver a potent teenage power fantasy

The next year, Universal's The Last Starfighter revamped the Sword In The Stone myth for the Atari generation. The plot is pure teenage wish fulfilment, with high-scoring teen Alex Rogan (Lance Guest) discovering that his favourite space shooter arcade cabinet is secretly a recruiting tool for an intergalactic army. The movie recast games as part of the classic hero's journey, a way for us to all feel like Luke Skywalker in waiting.

It was a modest financial success, but gained a cult following, perhaps because it spoke to something that existed in the adolescent male psyche. "In the 13th century, kids would have been playing war with wooden swords," says Betuel. "Fast forward [and] videogames appeared and spoke our 'inner warriors'. I remember thinking: 'OK, so I can play *Battlezone* for an hour on a single quarter.' But what if there was some yet-unseen purpose, maybe even a greater good? What if all us modern kids needed to do was be like Wart in the Arthurian legends and pull this electronic Excalibur to the top of the scoreboard? What if, somewhere, alien eyes were watching, waiting?"

Not all Hollywood takes on gaming were so favourably inclined. Reeling from the cultural shift, some movies tapped into growing anxieties about games and computers. In WarGames (1983), a naïve, *Galaga*-loving teenager (Matthew Broderick) hacks into a NORAD defence computer AI, mistaking it for a videogame company's database. He browses a list of what he believes are strategic games, from *Chess* to *Guerrilla Engagement* and *Theaterwide Biotoxic And Chemical Warfare*, before deciding that what he really wants to play is *Global Thermonuclear War*. As a result, he almost takes mankind to its game over screen when 'Joshua', the military AI, simulates nuclear war with the USSR.

Anxieties about games also informed the Bishop Of Battle sequence in horror anthology Nightmares (1983). In Joseph Sargent's movie, Emilio Estevez plays an obsessed arcade hustler who reaches the infamous level 13 in the eponymous wireframe shoot 'em up. His reward isn't a high score, though – he's sucked into the demonic cabinet itself to become trapped forever as an avatar. It was the start of a 'gaming is dangerous' trend that became a genre in itself, stretching from The Lawnmower Man (1992) and Brainscan (1994) right up to Stay Alive (2006) and Gamer (2009). ▶



Brand new, you're retro

Nostalgia's powerful stuff. It can bring old games back from the dead in remastered HD editions. It can also bring mockup games that never existed at all into being. When Tron: Legacy was released in 2010, Disney hired 42 Entertainment to develop a playable browser version of the *Space Paranoids* arcade game seen in Tron. Over on Kongregate, a nostalgic coder recreated *The Cavern Of The Evil Wizard* from Big. It's playable, although it's confined to the single screen shown in the movie and locked on an inevitable timer as the wizard prepares to zap you with his ice sceptre. If you are quick, you have time to push the limits of the text parser. (Typing something juvenile such as "Pee" rewards you with "Ah, that feels better! Now slay the evil wizard.") The best of the bunch, though, is the 8bit arcade game *Fix-It Felix Jr* from Wreck-It Ralph. A cross between *Donkey Kong* and *Rampage*, it not only exists as a playable arcade cabinet and browser game, but also has its very own viral video, which claims to be a TV spot dating back to 1982.

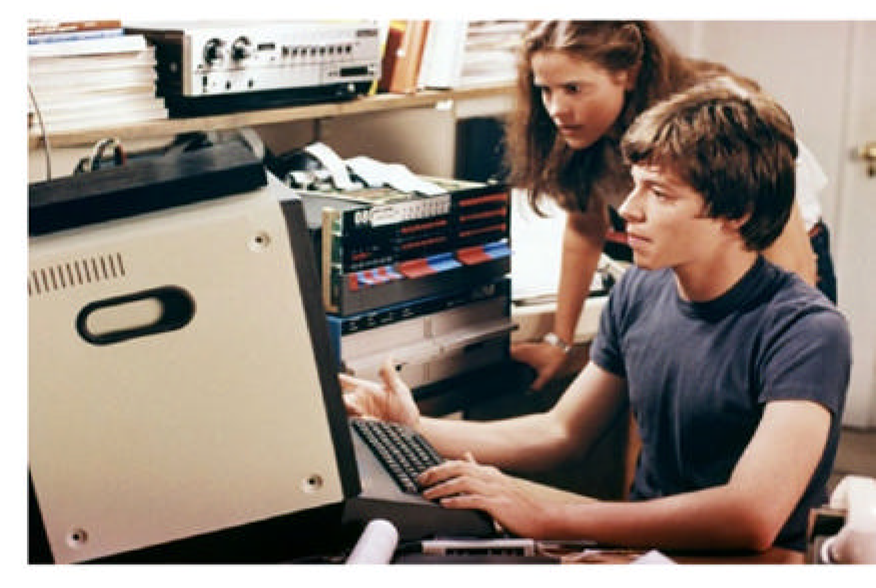


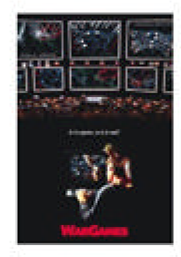
es, studios saw financial potential in tapping into games, but filmmakers found a rich vein in them as well. As early as 1983, movie directors and screenwriters were recognising that games could be useful in establishing theme and character, and even for offering social commentary. In WarGames, Joshua plays through thousands of games of tic-tac-toe with itself, projected onto huge display screens at a NORAD command bunker. "A strange game," the AI eventually decides. "The only winning move is not to play. How about a nice game of chess?" In an era when the public felt like every nuclear power had its finger poised over the big red button, the message packed quite a punch.

A few years later, screenwriters Gary Ross and Anne Spielberg used games to explore a very different theme in Big (1988), a Tom Hanks comedy about a boy trapped in an adult's body. When the movie starts, we meet Josh (David Moscow) in his suburban bedroom. He's playing a made-up graphic adventure game known as *The Cavern Of The Evil Wizard* on his IBM PC.

"You are standing in the cavern of the evil wizard," reads the onscreen text. "All around you are the carcasses of slain ice dwarfs." Distracted by his mum as he types in commands, Josh ends up running out of time and dying, trapped in a block of ice for a million years. Only at the end of the movie will Josh work out how to defeat the evil wizard, melting it by throwing the 'thermal pod' he has in his inventory.

Although the screenplay gave a detailed description of this fictional game, computer engineer **David Satin** still faced a technical challenge in bringing it to life onscreen. "To get the super-high resolution [for the time] EGA graphics to run reliably at 24fps," he remembers, "I had to modify one of the brand-new Zenith flatscreen CRT monitors to lock to the 24fps sync. I also had to create a system that would allow me to synchronise the shutter of the Panavision film camera to the computer in order to film the game with no visible distortion."







In WarGames, Matthew Broderick's character used an IMSAI 8080 computer to hack into WOPR, although his keyboard input was coded to always output the correct strings, so that the actor needn't worry about his typing

Using the "glorious 8bit colour" of PC Paintbrush, Satin created a single game screen for *The Cavern Of The Evil Wizard* and wrote "a little memory-paging flip-book application" in Turbo Pascal that could handle the quirky reset rate of the heavily modified Tecmar Graphics Master board. It let him play out the animation at any speed without the screen tearing on camera. "It was," he reckons, "all of 100 or so lines of code."

Then, while child actor Moscow plugged away at the dummy keyboard, Satin sat offscreen with his own live keyboard and advanced the animation frames in time with the actor's keystrokes. In the finished scene, we get to see young Josh typing in commands as the evil wizard menaces his avatar and eventually freezes him in ice.

Although few people in 1988 were likely to be wowed by *The Cavern Of The Evil Wizard*'s simple graphics or gameplay, it subtly captured the movie's theme of arrested development brilliantly.



***The Cavern Of The Evil Wizard*, recreated as a browser game by BoMToons**

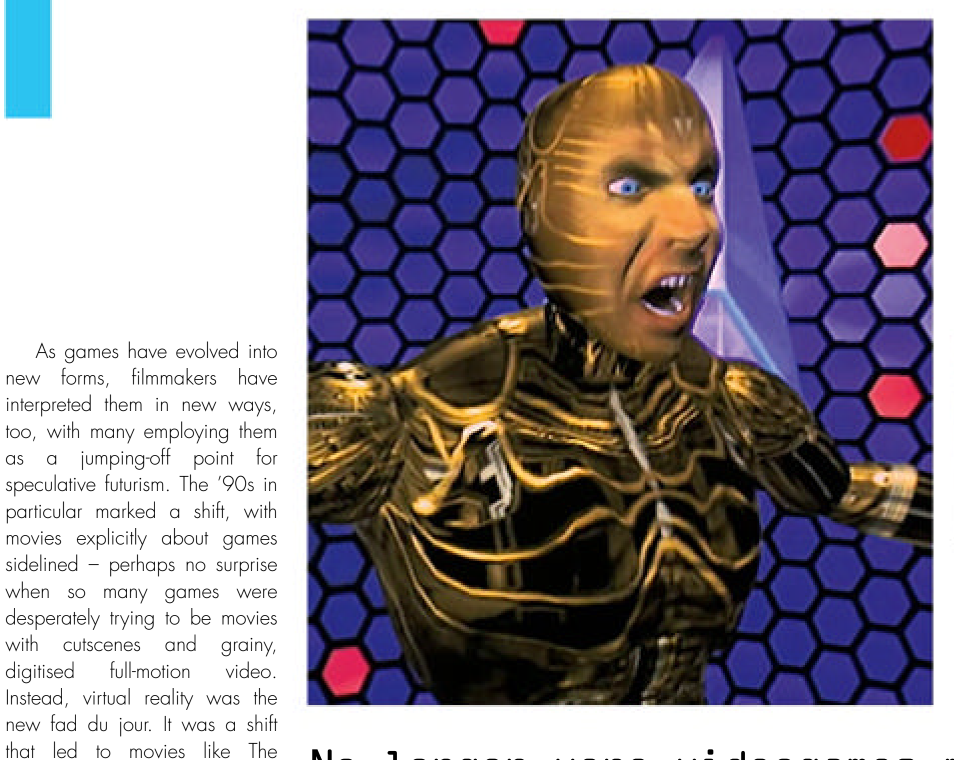
As games have evolved into new forms, filmmakers have interpreted them in new ways, too, with many employing them as a jumping-off point for speculative futurism. The '90s in particular marked a shift, with movies explicitly about games sidelined – perhaps no surprise when so many games were desperately trying to be movies with cutscenes and grainy, digitised full-motion video. Instead, virtual reality was the new fad du jour. It was a shift that led to movies like The Lawnmower Man (1992), which chewed through $500,000 for eight minutes of CGI sequences, and marked the first time a human actor was replaced with a CGI avatar, although the less said about its pioneering depiction of cybersex the better. It was joined later by the postmodern crisis of David Cronenberg's is-it-real-or-is-it-a-game surreality of Existenz (1999) and the "desert of the real" of The Matrix (1999)

But those are only the most far-flung and high-concept movies to tap into the increasing ubiquity of games. No longer were videogames merely eye candy to splash on the screen. Their cameos could sell coolness, offering an instant point of connection for young adults. Witness Johnny Lee Miller playing an early prototype of PlayStation classic *Wipeout* in a grungy club in Hackers (1995), his face lit up by the glow from the screen while a young Angelina Jolie looks on.

Games are even subject to social critique now. In Inside Man (2006), Spike Lee's convoluted thriller about an ingenious Wall Street bank heist, a brief but memorable scene features Clive Owen and child actor Amir Ali Said playing a lurid PSP game colourfully called *Gangstas Iz Genocide*.

"The brief was simple," remembers **Eric Alba**, who supervised the animation, working with House Of Pain, a collective of graphic artists. "Spike wanted *Gangstas Iz Genocide* to be an extremely violent game that also showed you winning in that game for the violence you committed."

Alba and House Of Pain spent ten days on the sequence, previsualising it in ▶





LEFT **Jeff Fahey brings a vision of virtual reality to the masses in The Lawnmower Man.** ABOVE **Laurence Fishburne's Morpheus, from the Wachowski brothers' The Matrix**

No longer were videogames merely eye candy. Their cameos could sell coolness, offering an instant point of connection

Hackers showcased a prototype of Psygnosis's PlayStation-exclusive *Wipeout*, and Jolie would later portray Lara Croft



Q&A: Michael Fink

Visual effects supervisor, WarGames

The game screens in WarGames are reminiscent of *Missile Command*. Were you influenced by videogame culture?
The screens you saw in WarGames were designed by Colin Cantwell, a brilliant graphic artist, programmer and innovator who preceded me on the film. What we – Colin and me – drew on was our familiarity with how computers updated and displayed data on screens. Our reference was primarily from what it really looked like when data scrolled across the screen leaving lists of terms, and not from how a game might do it… The look drew from whatever we felt would tell the story best and still evoke the sense of a game. In a way, it was one of the first games – if not the first – built keeping in mind that we must tell a story.

What tools did you use?
In those days, everything was baling wire and bubblegum… The actual screen images were generated by Colin and his team on HP 9845Cs, and output to HP vector displays and then to film. There were 125 monitors on the stage of the war room that displayed 24fps videotape of the large screens, but 60 of these monitors could take a live 24fps computer graphic feed from two CompuPro S-100 machines in the control room on stage.

Why did that matter?
They drove 60 keyboards at those monitors that could display, live and in-sync, what was typed onto the screens. The difference was that Steve Grumette, who designed the entire 24fps computer system for these displays, also programmed the computers so that when an actor pressed a letter, any letter, the proper letter would appear onscreen. So Matthew Broderick could type rapidly on camera, not worrying about typing accurately, knowing that when he hit a key the right letter would appear.

3D Studio Max before creating it in Maya so that it could run on a PSP and onscreen in full film frame resolution.

The finished game sequence, which looks like an over-the-top *Grand Theft Auto: San Andreas* clone, has a drive-by shooting and the player shoving a hand grenade in a victim's mouth while the screen flashes up a "Kill Dat Nigga!" text prompt. "That was Spike's most memorable note after he saw the [original] animation," says Alba. "He wanted the text there to amplify the action… and when he saw the grenade, he loved it."

In the scene, Clive Owen's bank robber plays the game on the kid's PSP and is clearly appalled by its graphic violence. "What is the point of this?" he asks his eight-year-old companion. "Like my man Fiddy says," explains the kid, "'Get rich or die trying!'" The scene ends with Owen's bank robber – a man sitting in a vault surrounded by stacks of cash – deciding to tell the kid's father about the games that he plays.

"The sequence shows that Amir Ali Said's character is completely desensitised by the violence in the game," explains Alba, "and it's social commentary on what these games are potentially doing to children playing these types of games. Spike was specific that he wanted the game characters to be West Coast thugs. [He wanted] to call out rap stereotypes and real 'black on black' crime."

Gangstas Iz Genocide works as both a comment on violent games and a critique of the glamorisation of African-American gang culture – not bad for an invented videogame that's only onscreen for a couple of minutes. But the most refreshing thing about Inside Man's videogame scene is how it also acts as a window on Clive Owen's character. He may be a ruthless masked bank robber leading a crew armed with assault rifles, but he's still decent enough to be appalled by an eight-year-old being immersed in violence – real or digital.





After watching Inside Man, you'd guess Spike Lee doesn't like *Grand Theft Auto: San Andreas* very much. Commenting on games and violence, its fictitious PSP title, *Gangstas Iz Genocide* (below), is a hard-to-swallow message about modern culture

Inside Man isn't the only film to use videogames to reflect upon its characters. In Oscar-nominated drama The Wrestler (2008), Mickey Rourke plays washed up pro wrestler Randy 'The Ram' Robinson as he struggles to deal with retirement. In one poignant scene, Robinson sits in his trailer home playing on a Nintendo Entertainment System with a local kid. The game is *Wrestle Jam '88*, a fictional tie-in from Robinson's heyday in which he battles his arch enemy, The Ayatollah.

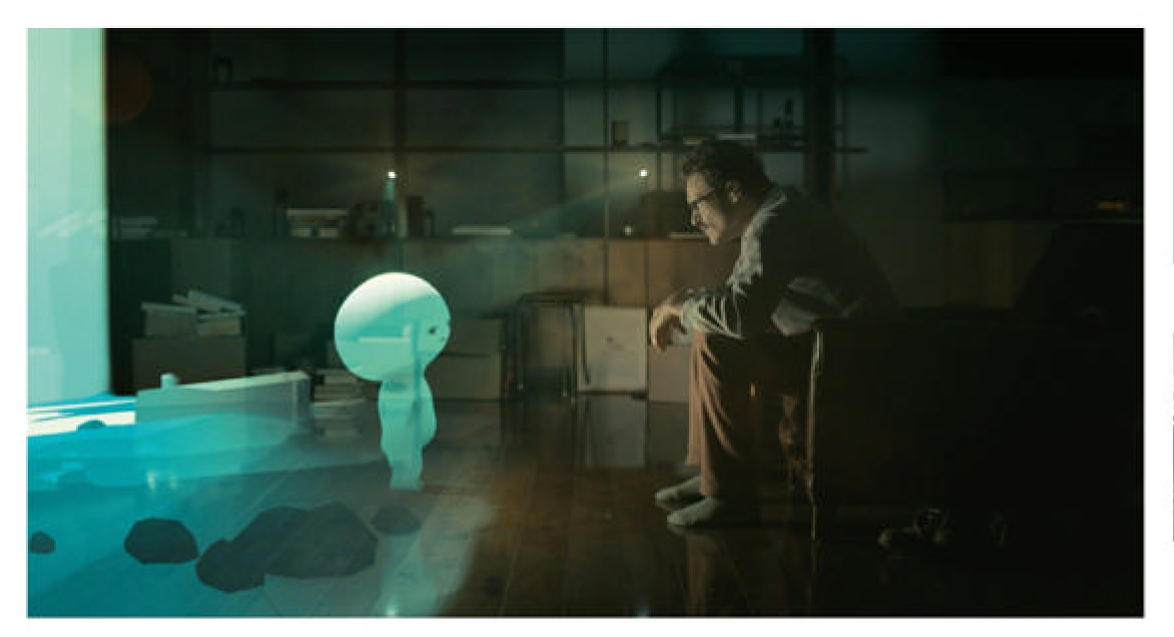
Going for a retro feel, director Darren Aronofsky brought in artist **Kristyn Hume** and her programmer brother Randall Furino to create a playable game. "It was a challenging design project for me, because all my software is designed to *not* create things that look 8bit," laughs Hume. "Darren wanted the game to be as realistic as possible for the era it was meant to come from. [It had to be] 8bit and simple, believably from the '80s."

It seems like a lot of trouble to go to for a seemingly throwaway scene, and it would be, except the moment is anything but throwaway. While Robinson and Adam (John D'Leo) play *Wrestle Jam*, the young kid chats to his ageing hero about *Call Of Duty 4*. "It's a war game. Most of the other *Call Of Dutys* are, like, based on World War II, but this one's with Iraq," he explains. The half-deaf wrestler nods, understanding nothing, and continues hammering the D-pad on his controller.

The *Wrestle Jam* interlude works on two levels, then. On one hand, the similarity between the two games' Middle Eastern enemies offers a commentary on America's shift in bogeymen between the '80s and now. But it also illuminates Robinson's predicament brilliantly. This wrestler, like the tie-in game he was once the star of, is now a retro throwback cast



Scott Pilgrim's *Ninja Ninja Revolution* foreshadows its own boss fights



Her's holographic adventure sequence promises a future free of screens and controllers, but also makes a point about humans insulating themselves in technology

adrift in a modern world he doesn't understand, clinging to past glories.

Today's films are increasingly full of such nuanced uses of videogames, now that the Atari generation has grown into directors, writers and producers. In the retro arcade feel of Edgar Wright's Scott Pilgrim Vs The World (2010) or the nostalgia of Wreck-It Ralph (2012), Hollywood has shown it is now comfortable evoking both the history and visual language of videogames.

"It'd be amazing if the decisions we made in Her had an influence on the games of the future"





Nostalgia for the 8bit era takes on a new layer of meaning in Darren Aronofsky's poignant tale of a washed-up professional wrestler, reflecting on simpler, happier times for Randy 'The Ram' Robinson (Mickey Rourke)

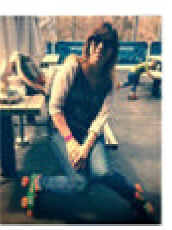
Just as in 1982, though, the desire to show us the future hasn't completely vanished. In Spike Jonze's Her (2013), Joaquin Phoenix falls in love with his upgraded OS, which is voiced by Scarlett Johansson. Set in a near-future world, Her gives us two glimpses into the future of games: a frantic mom simulator called *Perfect Mom*, where players must feed their kids breakfast and get them ready for school, and a holographic adventure game that's like a cross between a holodeck and PlayStation 4's augmented-reality distraction *The PlayRoom*.

"The brief was wide-ranging," explains **David OReilly**, animation designer for the hologram game in which Phoenix's nerdy man-child follows a potty-mouthed AI alien child on a quest. "The main two things were to create something that would feel real in the room, and to create these worlds and characters inside the game that didn't look like contemporary games. Both these goals were very much intertwined, as the design, colour, shapes, scale, etc, of everything had to read against the live-action backgrounds. This was particularly challenging because the holograms were incandescent light, so there was a lot of pushing and pulling of certain elements to make it work together."

In the finished movie, Theo hunches on his sofa, fingers clawing empty air as he propels himself through a cavernous maze. The sweary alien child (voiced by Jonze himself) mocks him, but also needs Theo's help. "The game ties directly into Joaquin/Theo's mood and emotional journey in the film," OReilly explains. "It's what makes it much more effective than just a technological showpiece. We worked really hard to make sure the actual techniques to deform and display the game were more felt than shown."

At its heart, though, Her proves that in the three decades since Hollywood first started to incorporate videogames, some things have stayed the same. CGI and processing power may have increased exponentially, yet the movies are still showing us visions of the shape of things to come. Her's holographic videogames are a vision of a possible future, just as *Space Paranoids* was 32 years ago.

"Science fiction's task of imagining things does have the power to manifest them outside of the screen," says OReilly. "Further back than Tron, if 2001: A Space Odyssey wasn't made [then] I'm not sure if we'd have half of Apple's products. It would be amazing if the decisions we made in Her had an influence on the games of the future." ■



Q&A: Kristyn Hume

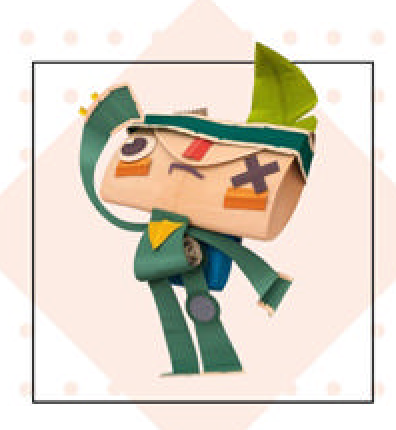
Visual effects artist, The Wrestler

How did you get involved in the movie?
The project initially began as just the movie's title sequence. Later on, we added in the game, too. My brother, Randall [Furino], is a videogame programmer, so I tapped him to help me with the project. He taught me the basics about sprites and backgrounds. I made all the elements in Photoshop and handed them off to him and he made it an actual game. I don't know how any of the coding stuff works. I think it's some sort of voodoo computer magic.

The game is actually playable, right?
Yes, we decided the best thing to do was to let the players control the actions for a certain amount of time. When the time was up, or one of the characters reached a certain amount of points, it would automatically move into Randy The Ram's power move, the Ram Jam, and end the game. That way, the actors could play it, but it would always end the way it needed to end. [Yet on the day of shooting, problems with the vintage controllers meant the actors didn't end up playing it themselves.]

Were you surprised by the interest in the game afterwards?
I was at first. But we're at the point that stuff from the '80s and '90s is all over the place. And since we're such a tech culture, it's unsurprising that vintage tech would become so popular.

THE MAKING OF...



TEARAWAY

The story of Media Molecule's journey from page to screen and back again

By Chris Schilling

Format Vita
Publisher SCE
Developer Media Molecule
Origin UK
Release 2013

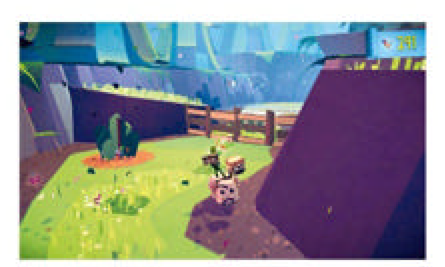
Tearaway didn't begin with a piece of paper, as you might suspect, but with a strange slate-like device surrounded by a terrifying tangle of wires. As a Sony-owned studio, Media Molecule was among the first to get an opportunity to play around with this early Vita prototype. Yet despite its unfriendly appearance, this slab sparked the imagination of **Rex Crowle**, the studio's prolific artist.

"It was going to be this very touchable console, but at that point you were nervous to touch it," he says. Even so, it inspired Crowle, and he was soon encouraged by the studio's bosses – including **David Smith**, one of its two technical directors – to make something for the curious new hardware. "We'd started off making *LittleBigPlanet* as a small team," says Smith, "and we wanted to find a way to give other people with [Media Molecule] that same kind of experience. So we created [something like] a company within a company."

With most of the studio consumed with creating downloadable content for *LittleBigPlanet 2*, Crowle assembled a small group from the few free staff to begin prototyping. Concept artist Men Lu, programmers Paul Holden and Nathan Ruck, and producer **Michelle Ducker** were the other members of this five-strong team, which was given its own room. Crowle, hoping to capture a playful feel, called it The Secret Treehouse. "I covered it all up and made it quite mysterious," he says. "We'd all sit there with a huge amount of Lego and lots of other bits and pieces to play around with."

The team's brief was to make a handheld title that embraced Vita's portability, although Crowle was particularly keen to take advantage of as many of its features as possible. One in particular stood out. "The rear touch panel is unlike anything on any other [electronic] device there's ever been," enthuses *Tearaway*'s head of audio, **Kenneth Young**. "That was what inspired Rex. A lot of launch Vita titles were using it, but it didn't feel like it was necessary [in those games]. It was just there. For us, it was always about integrating it into the experience – we didn't want it to feel bolted on, or that we'd had to do this because Sony made us."

Vita's most untapped feature was about to dominate the initial stages of development. One early experiment would inform the rest of the creative process as the team began to unpick Crowle's concept of a game that connected its



Crowle grew up on a farm, which helped give *Tearaway* "a bit of rawness underneath all of the bucolic Englishness"

own world with the real one. "We were thinking about what we could do with [rear touch] that's stupid and silly, and whether that could generate some ideas," says Crowle. "At first, we had these primary-coloured sausages onscreen as you touched the back, and we tried to get a feel for what that was like, and to figure out a world that could give it a context."

"THERE WAS A PART WHERE YOU NEEDED A BEARD IN ORDER TO PLAY IT. I'M NOT SURE HOW FAR YOU COULD TAKE THAT"

In Crowle's words, "a huge amount of missteps" followed, with the team's experiments taking it down several blind alleys. Vita's GPS functionality led to the idea of location-based elements ("so the game content would differ depending on where you were playing it"), but it soon became obvious that the procedural techniques required for this idea were at odds with the studio's desire to build a beautiful 3D world to explore, and studio director Siobhan Reddy suggested it was hardly playing to the strengths of Media Molecule's artists.

So, for a while, *Tearaway* became an isometric roleplaying game, featuring a central character that was guided by the player moving their finger on the rear panel. "It was top-down, and really crude, but we created lots of little dungeons," says Ducker. "We pulled in some of the other guys to play around with it, and sat around watching them play it. And we were convinced that the finger [in the game world] was the way forward."

Watching the struggles of those testers quickly revealed that the control scheme wasn't quite intuitive enough. "Some wanted to kill the finger!" says Young. "But there was just enough about it that did work."

After six months, the team expanded, and Ducker organised a series of game jams to encourage everyone to experiment. One programmer used Vita's face-tracking libraries so that the game could analyse the player's facial expressions. "There was a section where you needed a beard in order to play it," laughs Crowle. "I'm not sure how far you could take that, though. Maybe you'd have to get busy with the felt tips." Smith, meanwhile, developed additional functionality for the in-game camera. "You'd get XP for taking photos of things," he says. "Like trying to get a photo of a gopher with a squirrel, or a gopher on a squirrel."

"Making that sort of thing just energised us into thinking what was possible," Crowle says, "and just going all out, even if we had to cut back on some of the wilder elements."

There was a lot of fat to trim, however. Too many ideas had emerged from the jams, and some of them had been developed far beyond crude prototype stage. "The team hadn't manage to prove out some of those ideas," says Smith, "so some of these things were just ideas. We wanted to strike a balance where we were pushing the envelope enough to make something new, but also something that's good, and not a total indie experimental thing that no one gets."

Streamlining the game was necessary. Crowle and Smith had to be ruthless, even with their own ideas. "I wanted to use the [camera] flash to stun enemies," says Smith, "so it had this gameplay functionality. But then the game became too much about the camera and not enough about your interaction with the world."

The cuts were particularly painful for some. "There were lots of features people worked really hard on that we had to chop," Ducker admits.

"It's not until you get that Borg hive mind thing going on, where everyone's on the same page, that as a team you're able to evaluate a feature and say that it's a really good idea, but not a good fit for the game you're making," says Young. "And that's really hard. When you've got someone who spends a month on a feature,

they've got to be really strong to say, 'No, you're right'. People get invested and they argue."

"The [internal] reviews were really brutal in that sense," admits Ducker. "There were awkward silences – it was really fraught at points. We simply had too many ideas."

It was the papercraft motif that helped to bring everything together. The idea had been mooted from the early prototypes, tying into Crowle's aim to build a world that would yield to the player's touch in both subtle and dramatic ways. The biggest hurdle was not technical, but artistic. This world needed to look like paper but, more importantly, it also needed to behave like paper.

"We started with some concept art, converted it into 3D meshes and ended up with that kind of low-poly look," says Crowle, "which is kind of fashionable, but it looked more like low-poly models with texturing than paper."

With little more than a placeholder engine, the team started to build physical models of objects from real paper, while Crowle invited a pop-up book expert into the studio to discuss how they work. "That instantly excited the level designers, because they saw how these mechanisms could be combined," he says.

"Part of the problem was that we were ignoring how paper moves," Smith explains. "Everything needs to behave like paper… perhaps magical paper that's somehow come to life, but everything has to [be based on] real paper. So you wouldn't have floating platforms any more, but instead you'd have these concertinas that would expand."

Energised by this new line of thinking, development finally began to gather momentum. It's graphics programmer Mark Zarb-Adami that's credited with the biggest breakthrough, though. Along with technical artist Stefan Kamoda, he worked to translate the qualities of paper – including its physical properties, and even how a person might add tabs to bolster individual constructions – into the game. "Mark wrote this amazing engine to build stuff out of virtual paper," says Ducker. "So that if you folded the paper [models], it would fold like real paper."

"You'd hear him screaming from the other end of the studio: 'We've got bending!'" says Young.

With the engine established, Media Molecule could work on getting the animation right, which in turn made Young's job easier, since he was now able to make these moving parts sound like paper. "I had early complaints that it didn't sound 'papery'. It sounds obvious when you say it, but the sound of paper is the sound of paper moving. There's no excuse for sound if nothing is moving!"

Finding the right kind of paper was the head of audio's next job. "My go-to was sandwich bags," he explains. "A4 is too thick; it makes this kind of brittle sound. Newspapers are too thin, too tissuey, too noisy. Sandwich bags are just the right paper to get the best of both worlds."

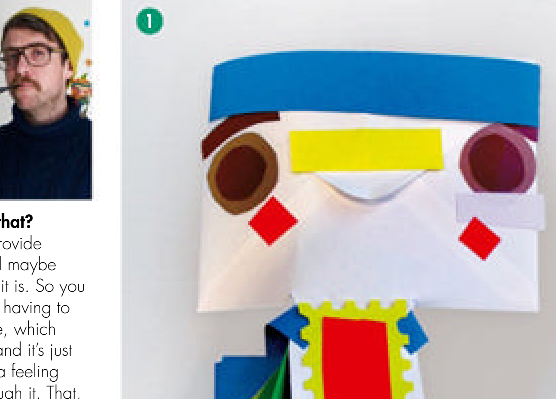
With paper acting as one form of connective tissue between the game and the real world, the desire to involve the player in the narrative and forge a link there grew stronger. So it's perhaps surprising to learn that the story only began to take shape when Crowle and Young worked out the ending, drawing everything back from the ▶



Rex Crowle
Lead creator

It seems that with *Tearaway* you wanted to avoid more overtly challenging gameplay. Why was that?
A lot of game environments try to provide challenge and slow you down, and maybe make [the game] seem longer than it is. So you have these barriers all the time, like having to go into a room and kill 400 people, which unlocks the door to the next room, and it's just like the last one. I was keen to get a feeling that the world wants you to go through it. That, to me, came from the idea that each footstep should be pleasurable, so you'll see the paper squashing down or moving when you're going through the long grass, or splashing in the puddles. Having this gentle positive feedback all the time [encourages you to] keep going. This is a journey that needs to happen, so let's help you on your way, rather than putting spike pits everywhere.


Did you have any rules for the way you wanted to use Vita's different features?
We had to make sure all the interactions made sense. You can have this very fantastical world, but what you're doing from the outside [has to feel] natural. So you're not having to trace a symbol on the rear touch pad to pull off a fireball move or anything. It's more, 'I can see the floor is thinner here, so I'm going to push my finger through,' and then it's up to you to what you do with that. Rather than learning some special move, you're slapping [a drum skin] to make something jump in the air, and that's much more immediate. It was important to us that the narrative could use all of these features so that they felt they were part of the story and part of the world.







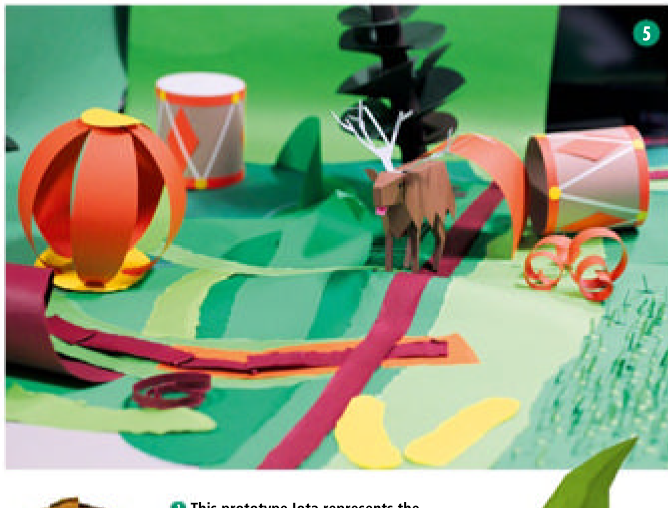


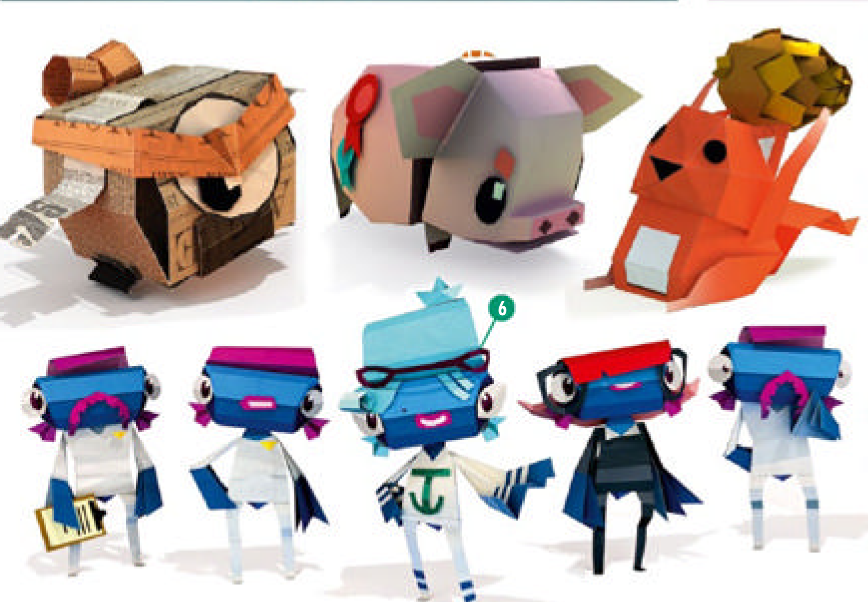












1 This prototype Iota represents the moment when Rex Crowle started to wonder about grounding the character's purpose in its design by using an envelope for its head. As Crowle explains: "It would be recognisably made of paper, but also suggest an intriguing purpose for the character – what's in the envelope?"
2 From left: producer Michelle Ducker; David Smith, who helped develop the in-game camera; and studio director Siobhan Reddy, who co-wrote the script.
3 While Richard Ridings was quickly established as one of the co-narrators, the team struggled to find the right voice for the second. "We were quite keen to use a more exotic or unusual accent, so at one stage we were interested in Icelandic," says Kenneth Young. "There was talk of trying to get Björk involved."
4 The rather abstract concept of a hole in the sky that Atoi or Iota would climb out of was introduced at an early stage.
5 The team built a number of papercraft environments for inspiration. The physical constructions helped it understand how paper moved and how objects fit together.
6 The Chief Scientist provides your only in-game weapon, the Squeezebox. It's also used to solve environmental puzzles

destination. "We didn't really have something to aim for," Crowle concedes. "I knew that we wanted the messenger to make their delivery, but it wasn't obvious where that would be. We needed to have this clear visual goal."

Thus the hole in the sun was born, casting the player in a more prominent role as the game's deuteragonist. Crowle was initially concerned that it might be too divisive, but he was adamant that it was key to the success of the game's story. "It creates this connection between you and the game world, where you can actually see yourself and [Iota] looking into each other's eyes. And then it's all on you as to how involved you want to get. It's kind of like reading a kids' book to a kid – you could read it straight up, or you could start putting the voices and add all the extra personality to it."

Tearaway's E3 debut let Media Molecule know it was on the right track. "It was amazing to see the faces players were pulling as they played on the pods," says Crowle. "As soon as people start smiling, they're engaging more with the world. [They're] not just pressing buttons, but physically involved in it."

As new ideas continued to flourish, other elements were stripped away. The focus shifted towards the narrative and onto the journey itself, and the final remnants of *Tearway*'s roleplaying roots were phased out. "We cut back the UI, because it's almost literally a physical obstacle between you and the character," Smith says. "If there are lots of numbers on the screen to show you how well you're doing, rather than looking at the character and seeing how they're responding to things, it changes what you're caring about."

"I felt that the game was at its best when you were simply travelling through it and having new things revealed to you," Crowle says. "Suddenly having to do a lot of fetch quests was what really killed it from being an RPG. It didn't really feel like an adventure, more like a series of errands. You didn't feel like a messenger, but a postman."

However, *Tearaway*'s unhurried pacing is hardly a mirror to the environment in which it was developed. While Ducker says it was "two-and-a-half to three years from when the light bulb first appeared over Rex's head" to when the game shipped, it wasn't until the last six months that it began to truly take shape. Indeed, the final voiceover script was hastily redrafted in the two days immediately before actors Richard Ridings (The Green Man) and Lorna Brown (The Fortune Teller) arrived to record their lines.

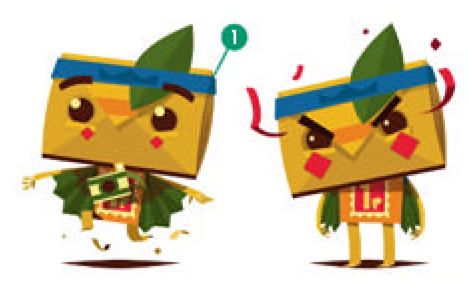
Young folk



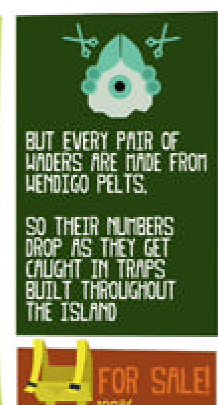
Tearaway's eclectic soundtrack was a collaborative effort on the part of Kenny Young (right) and Brian D'Oliveira. "That handmade, almost dirty aesthetic style is reflected in the music," says Young, who used analogue equipment so as to avoid it sounding too modern and clinical. "That approach went as far as our actual performance style. I'm a musician, but I'm not a performer, [and] we wanted it to sound like it was played by real people, or even the characters in the game itself. So the fact that I'm not that good was a positive in this context. Brian is a really good player, so we had to get him to tone [his performance] back a bit. He was too good!" The result is a musical journey to match Iota's quest, beginning with some traditional folk music, taking on dubstep-inspired rhythms in The Barn, and moving on to drum'n'bass as you reach Gibbet Hill. "We had permission to go nuts with the music, which is an analogy to the game experience – as the game gets stranger, so does the soundtrack. So you've got the electronic stuff at the end of the game, where it starts getting really weird!"

Over that frantic 48 hours of rewriting, Crowle and Young worked out that the game's stories and themes were analogous to their own process. "At one point, The Green Man says something like, 'Oh, don't worry, just wing it!' says Young. "And that's just like game development! We were up against it, time-wise, but bizarrely I think that also ends up in a more honest experience. We haven't had that long to think about it where it becomes almost too slick."

Tearaway is a game that feels handcrafted in every sense. It's assembled with clear care and love, yet also a creative spontaneity that results in a few imperfections, adding to a feel that's honest, human and real. "I think it's very much a reflection of the way we make games," Young says. "Somehow, through the chaotic way we come up with ideas, the scrappiness and the charm outweighs the fact that you will have these rough edges. It buys us forgiveness and it buys us honesty as well. Other developers might make games that are slicker, but they don't have the personality we've got. We've got faith in the process, or at least faith in our ability to do our jobs. And at the end of it all, we know something good's going to come out of it." ■



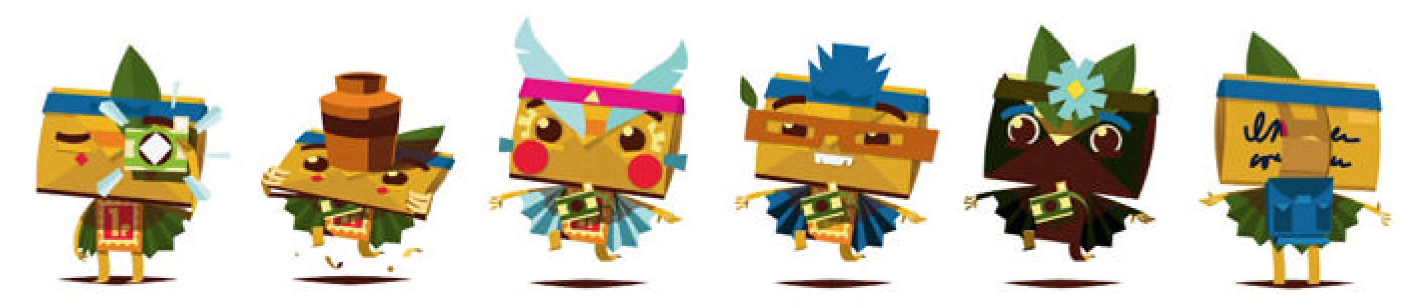








1 Iota was originally conceived of as a woodland spirit with a bird-like quality. 2 Sogport, where the second act occurs, got its own comic; one young playtester was left in tears after an encounter with a Wendigo. 3 An early concept had you pushing creatures out of the screen and into the real world. A French 18th-century theme was mocked up – this is Sir Francis Drake. 4 For a time, *Tearaway* was an isometric RPG. One of the few ideas that remained was the in-game camera. "We wanted a way to let players become involved with the art style without having to be artistic," says Crowle. "In the same way Instagram levelled the playing field by making it so that everyone could take a beautiful photo, [we thought] that if we can make a world that's beautiful enough that players would want a camera that could take great shots of it, [then] it would really involve all players"




4





STUDIO PROFILE

GRASSHOPPER MANUFACTURE

Trading blows with Suda51 and his team of grindhouse action heroes

By Daniel Robson

Grasshopper is a developer whose philosophy bleeds through in every one of its games. Its punk spirit oozes from *No More Heroes*' layabout-turned-assassin Travis Touchdown, whose room full of memorabilia looks suspiciously similar to studio head **Goichi 'Suda51' Suda**'s meeting room in Tokyo. Its B-movie quirk is there in every pom-pom thrust of *Lollipop Chainsaw*'s Juliet Starling. And the 40-strong studio is compact and fleet footed, just like action romp *Short Peace: Ranko Tsukigime's Longest Day*.

Now 46, Suda was 30 when he founded Grasshopper in 1998. Fed up with making other people's games at Human Entertainment, where he worked on the *Super Fire Pro Wrestling* series, he set out to make his own, signing a deal with ASCII Entertainment that would result in *The Silver Case*. Naming his new studio after a song by British band Ride – an 11-minute-long instrumental that got him through crunch periods at Human – he assembled a tiny team and set about creating the games that appeared so vividly in his head.

"The guys from Human knew me already, but everyone else was new, and I didn't have much of a track record yet," he says. "It took time for them to understand my creative direction. Nowadays they understand how to interpret my ideas, which makes a big difference for me.

"As the company grows, it becomes harder to keep putting my imprint on the games, because more people are involved. But I want the staff to add their own colour, too. It's a challenge, but it's also what makes things interesting."

The Silver Case cast you as investigator, but the studio soon came to specialise in action games that draw heavily from B-movie subculture. For instance, its biggest seller, 2012's *Lollipop Chainsaw*, places a motorised saw in the hands of a cheerleader and lets the blood fly. Modern Grasshopper games flaunt mainstream appeal in favour of humour, sexploitation and violence, making Suda the Roger Corman of gaming.

"I came up with the character of Juliet while I was in the toilet," Suda laughs. "I thought a tough male protagonist killing zombies with a chainsaw would be too similar to Ash from Army Of Darkness, and then suddenly the idea of a cheerleader came to me. Cheerleaders can do athletic moves and high kicks, and they have upper-body strength. They're tough."

Grasshopper cemented its reputation for off-kilter action long before Juliet Starling started decapitating undead, however. *Killer7* (2005) was the first game to bring Suda fame outside of



The team includes composer Akira Yamaoka (halfway back, arms folded), artist Noboru Matsuzaki (bottom right) and general manager Tadayuki Nomaru (green-and-white shirt)

Japan, its bloody tale of split personalities the result of a collaboration with Shinji Mikami.

A shift in engine technology would also bring a change in focus for Grasshopper. "When we started using Unreal 3 Engine, that's when we started to create games that share common themes of American subculture, rock music, B-movies and action," Suda says, "and they became something like a series."



Founded 1998
Employees 40
Key staff Goichi 'Suda51' Suda (CEO), Akira Yamaoka (director, sound creator), Tadayuki Nomaru (concept artist), Noboru Matsuzaki (general manager)
URL www.grasshopper.co.jp
Selected softography *Killer7, No More Heroes, Lollipop Chainsaw, Killer Is Dead*
Current projects *Lily Bergamo*

with broadly positive reviews, even if sales were not so cheery. One good thing came out of it, however: this was the first game to feature **Akira Yamaoka**, a veteran Konami composer and sound designer who had previously worked on the *Silent Hill* series. "I wanted to join a company that has a global outlook [and] whose games appeal to players outside of Japan, and so when Suda contacted me I was very happy to join Grasshopper," says Yamaoka.

Since the ill-fated *Shadows Of The Damned*, Yamaoka has worked on *Liberation Maiden*, *Killer Is Dead*, *Short Peace*, *Black Knight Sword* and *Lollipop Chainsaw*. "*Lollipop Chainsaw* has a lot of licensed music," he says. "I came up with

"THE EA PARTNERS TEAM WAS LIKE, 'WHAT ON EARTH IS THIS?' THOSE MEETINGS FELT LIKE INTERROGATIONS"

Wii's *No More Heroes* (2007) incorporates many of those touchstones, and would bring Grasshopper to even wider western attention. Its comic-book-style action would even spawn a rare Grasshopper sequel, *Desperate Struggle*, in 2010. But it was followed in 2011 by another collaboration with Mikami for EA Partners (EAP), *Shadows Of The Damned*, whose troubled development left Suda bruised.

"*Shadows Of The Damned* was going to be a very different game than the one that came out," he laments. "That game went through about five different versions, as we got closer to a game that EAP could accept.

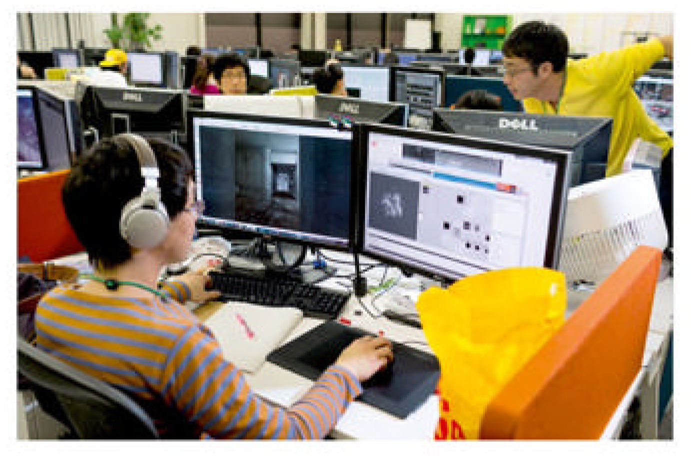
"For example, originally when Garcia [Hotspur] took out his gun and looked through the laser sight, it was ringed with flowers. And then around the circle of flowers were little leaping bunnies. It was very cute, but the EAP team was like, 'What on Earth is this?' Those meetings felt like court interrogations."

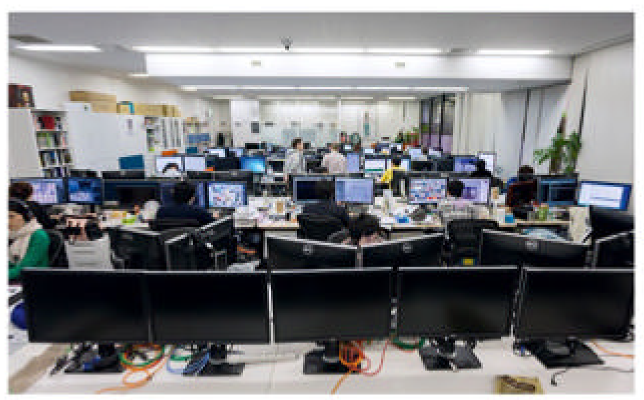
Despite the compromises surrounding its production, *Shadows Of The Damned* was met

a long list of songs I wanted to include in the game, from oldies right up to the present, and passed it to [publisher] Warner Bros for clearance. But when I'm making music for games, I tend to get ideas by doing something other than actually making music. For example, recently I've been playing long sessions of *Sim City*, and after a while I get bored and feel like making music again."

Grasshopper's office is open plan, with all staff in one room on the ground floor of a building in salaryman den Yurakucho, Tokyo. Although there is one private meeting room at the back and some shared ones on another floor, most discussions are held around a long table at the entrance, creating the air of openness you'd expect from a company with punk in its DNA.

The entrance is adorned by a large black stencil painting on the wall of Touchdown and Hotspur flanking a bright yellow G. This graffiti is the work of **Tadayuki Nomaru**, the shy 35-year-old artist and character designer who creates





In January 2013, Grasshopper moved into the ground floor of the Tokyo office building of its new parent company. It's a small but homely space, with all staff seated in the same room

many of the monsters and atmospheric backgrounds in Grasshopper's games.

Nomaru studied painting at Tokyo University Of The Arts and says that he never dreamed of a career in games. "A friend told me that this company was looking for part-timers, so I started out doing some small things on *Killer7*," he says, proffering an old issue of **Edge** that contains some of his designs from that game.

"I give my paintings to the 3D modellers to recreate in the games; I don't know anything about digital tools," he says. "The disgusting creatures I draw don't exist in real life, but I base my designs on animals in the real world." Indeed, as a lover of wildlife, Nomaru directed – and created the characters for – Grasshopper's first smartphone game, *Frog Minutes*, as a way of educating the world about his favourite amphibians. It was released in March 2011 as a fundraiser for the victims of the earthquake that had caused so much damage in Japan.

According to Nomaru, the staff go drinking together at least once a month. In the office, too, are signs of extracurricular activity, with a stash of consoles in one corner that includes an N64 with *Mario Tennis*. "We're also playing the new *Donkey Kong* on Wii U," Suda says. "There are a lot of Nintendo fans here, including me."

"There are times when I'll arrive in the morning and some of my colleagues are asleep after working through the night, but those crunch periods are rare," says **Noboru Matsuzaki**, who joined the studio as a part-time programmer early on and recently became Grasshopper's general manager. "It's not always fun and games when you're working hard on a project, but after a tough period, I always look back with fondness, and that's partly because everyone on the team has such high abilities."

Matsuzaki is also clear about the challenges presented by the studio's creative figurehead. "Suda has terrible timing, and he'll often send us a load of critical changes at five in the morning, just as we're all exhausted and ready to crash. Then we have to iterate a new version before he gets to the office at 10am, or at lunchtime."

Grasshopper's new benefactor should help keep its sprawling, anarchic style of game creation alive in a tough market; the company was acquired by GungHo, the maker of cash cow *Puzzle & Dragons*, in January 2013. Suda had approached GungHo many times since 2011, but it was only after drinking with CEO Kazuki Morishita and discussing a number of game ideas that the deal went ahead.

In many ways, the tie-up with GungHo marks the end of one era and the start of another. In addition to full console games, the studio had been experimenting with bite-size titles such as *Diabolical Pitch*, *Liberation Maiden* (part of Level-5's *Guild01* 3DS omnibus), *Frog Minutes* for iOS, and *Short Peace*, a collaboration with *Tokyo Jungle* creator Yohei Kataoka for PS3. But that spread focus impacted on the quality of the studio's games. Its most recent full-length game, *Killer Is Dead*, was undermined by haphazard gameplay and graphical issues that resulted in mixed reviews and poor sales, leaving Suda feeling he had let his team down. From now on, he promises, things will be different.

"SUDA HAS TERRIBLE TIMING, AND HE'LL OFTEN SEND US A LOAD OF CRITICAL CHANGES AT FIVE IN THE MORNING"

"The big change after joining GungHo is that I now get much more time to focus on making games, because GungHo helps with the business side," Suda says. "They will also take care of publishing for us."

Suda was attracted to GungHo because it had something he lacked: know-how in the online arena. For Morishita's part, he was interested in working with a creator who understands action games.

The two are currently collaborating on *Lily Bergamo*, which will feature online elements and a smartphone app that will be playable even without purchasing the PS4 game. Suda is reluctant to say much more before E3, but he will admit that "the online and smartphone elements will be very different from our previous games, so it's a project full of new challenges".

"Now that Grasshopper has become part of GungHo, I want to focus on one game at a time, to give it our full attention and take our time to make it perfect," he says. "I hope in ten or 20 years' time we have become a company that people trust and pay attention to, where they are eagerly waiting for the next Grasshopper game."

"We probably won't even be making games in ten years," Yamaoka laughs. "By then they won't be called videogames anyway, because people won't get their entertainment in front of a TV. It will be something else entirely, a different kind of interactive media that doesn't involve pressing buttons to progress through a story."

Whatever it is Grasshopper ends up making, with Suda at the helm it should continue to be defined by the punk ethos and wilful disregard for convention the studio was founded on. ■



❶ *Lollipop Chainsaw* is Grasshopper's biggest hit to date, thanks in no small part to irreverent heroine Juliet. ❷ *Killer Is Dead* built on top of the cel-shaded style of *No More Heroes* and *Killer7*. ❸ The memorable boss battles of *No More Heroes* further proved the studio's penchant for action games. ❹ Follow-up *Desperate Struggle* is a rare sequel. ❺ Made in collaboration with Shinji Mikami, *Killer7* is still considered a high water mark for Grasshopper



REVIEWS. PERSPECTIVES. INTERVIEWS. AND SOME NUMBERS

STILL PLAYING

Metal Gear Solid V: Ground Zeroes PS4
An early-May title update unlocked the platform-exclusive missions in a game that, contrary to complaints about its size, keeps on giving. Never mind the length; the depth of *Ground Zeroes* is revealed only when Camp Omega's playground has been mentally mapped and Snake's stealth toolbox has been committed to muscle memory. Konami likes to call it replayability but that's underselling it; how is it a replay when it's different every time?

MotorStorm: Apocalypse PS3
A trip to Evolution inspired us to dig out our copy of the studio's divisive PS3 racer. Irrespective of its credentials as a racing game, there's no denying its spectacle: tornadoes, earthquakes and other flavours of force majeure tear tracks to shreds as you desperately try to find something resembling a racing line. It feels as fresh as it did in 2011 and reminds us just how far Evolution is capable of pushing PlayStation hardware.

Dark Souls PC
With our cleric having completed the sequel's New Game Plus mode, we found ourselves rather lost for what to play next. When that happens, we simply load up *Dark Souls* again. It's strange going back now: you realise how many of the sequel's little tweaks have improved things. We miss the framerate, of course, and our beloved hexes, but the most jarring retrograde step? The inability to sprint up those ladders.



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REVIEWED THIS ISSUE



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System shock

The previous generation of consoles will be remembered as a time when spectacle took priority over systems, and scripted action beats were prized over emergent play. There were exceptions, but most of the PS3/360 era's big successes were the videogame equivalent of the summer blockbuster: big-budget, dumb-as-you-like fun. While the new generation has, by and large, followed the same path, the first glimmerings of a true generational leap are there to see in this month's crop of releases – even if the results are mixed.

In *Transistor* (p98), Supergiant builds on *Bastion*'s template with an intricate combat system that blends realtime and turn-based elements to remarkable effect. The result is a game that's every bit as aesthetically striking as *Bastion*, but affords a much greater amount of agency in what is still, like its spiritual predecessor, a fundamentally linear game. At the other end of the spectrum are *Daylight* (p109) and *Sir, You Are Being Hunted* (p104), two games that, with procedurally generated environments, delegate level design to algorithms. It's an approach that lets small teams make much bigger games, though bigger isn't always better.

Try telling Ubisoft that. *Watch Dogs* (p94) is enormous, a game that weds the open-world design ideas the publisher has finessed through *Assassin's Creed* and *Far Cry* to the city-based conventions of a Rockstar game. Yet strip away all the fat and you'll find a systemic core that sets it apart from its all-too-obvious influences, affording precisely the agency and emergence promised by its eye-catching announcement at E3 2012. *Watch Dogs* is at its best when it is just being *Watch Dogs*, rather than trying to be *GTA*. The balance will no doubt be tuned in the sequel, but its morass of to-and-fro busywork and pointless minigames suggests that its developers aren't ready to let go of the past just yet.

Watch Dogs

Thanks to CTOS, a network that controls almost every bit of computer technology within Chicago's limits, *Watch Dogs* presents you with the smartest city in the world. It's just as well, because its citizens need all the help they can get. They stand in groups and deliver little monologues, babbling incoherently over one another. They jump out of their skins when a car ten feet away slowly reverses into a parking space. One insists angrily that we're invading his personal space, oblivious to the fact that we, and half a dozen others, are waiting at a bus stop. *Watch Dogs'* citizens make the phrase 'smart city' ring hollow – at times you're unsure whether you're in a city or a psychiatric institution.

At least there are plenty of them. This is, unlike *Infamous: Second Son*'s Seattle, a bustling metropolis, though creating a believably busy city has come at a cost: *Second Son* was gorgeous, and *Watch Dogs* isn't. The weather system, which spans grey and stormy, overcast, and hazily sunny, has seemingly been designed to mask the poor draw distance, since cars and scenery fizz into existence a couple of hundred yards away. It's never an ugly game – it looks much better at night, and does a fine line in explosions – but you're rarely made to feel as if you're looking at a generational leap forward for open worlds.

You will, however, frequently feel like you're playing one. While it might not match the visual standards of its E3 2012 reveal, *Watch Dogs* delivers on its systemic promise, with hacking offering completely new ways to make, and escape from, trouble within a familiar setting. And it's not thanks to an impossibly powerful lead – though Aiden Pearce will be frighteningly tooled up by game's end – but a smartphone.

Hacking is simple, one-button fare for the most part, but it needs to be when you're blowing up an underground steam pipe while flying down a busy thoroughfare at 70mph, or triggering an explosion as an unsuspecting guard chases you. The challenge comes not from the input, but its execution: you can only hack objects that are within a certain range and to which, crucially, you have a direct line of sight, be that through Pearce's own eyes or those of a distant laptop camera. Out on the street, your smartphone's Profiler app offers information on those halfwit citizens, and some of them are alarmingly well paid. In addition to their salary, you'll see their name, occupation, and a snippet of personal trivia ("Recently adopted dog"; "Allergic to shellfish"; and, brilliantly, "Canadian"). If they've got a phone, you can hack it, draining bank accounts, intercepting text messages and voice calls, or downloading music to add to your own phone's meagre selection. It gives the city a sense of life, and layers a degree of substance on its inhabitants, but it's gimmicky. It's only in combat that *Watch Dogs'* hacking mechanics really come to life.

Publisher/developer Ubisoft (Montreal)
Format 360, PC, PS3, PS4 (version tested), Wii U, Xbox One
Release Out now (Wii U TBA)

It delivers on its systemic promise, with hacking offering new ways to make, and escape from, trouble



When infiltrating an enemy compound, casing the joint means jumping from one lens to the next. You can rotate rooftop solar panels to form cover, overload and explode transformers, and even mess with enemies directly. Some carry explosives, which can be set off; others can be distracted with a phone call or text message; and others still can be stunned with a high-frequency blast to their comms headset. Every enemy-infested area can be completed with a combination of stealth and hacking. If and when it all goes horribly wrong, you can fall back on a broad traditional arsenal.

Out on the road – where handling is weighty and satisfying, a squeeze of the brake sending a car's back end drifting outwards – Pearce's smartphone can at first only be used to hack traffic lights, turning every light at an intersection green, which means a guaranteed pile-up given citizens with this level of intelligence. Progress up the skill tree, however, and you'll be able to raise bollards and spike strips, open gates and garage doors, and raise or rotate bridges.

When combined, these elements add a new dimension to the open-world genre's hackneyed end-of-mission escape, and instead of simply outrunning your pursuer, you're able to stop them in their tracks. The game is happy to break its line-of-sight rule here, letting you hack objects you've just passed to take out a chasing vehicle, though timing is tight and success isn't always guaranteed – there's no point hacking traffic lights at an empty intersection, for instance. You have further options: Pearce can park up, kill the engine and slump down in his seat, and will only be spotted if a police car or enemy vehicle drives right by him. Ditch your car and you can make your escape by L train, providing you've unlocked the skill that lets you stop and start them on command. Say what you like about CTOS, at least it makes the trains run on time.

It's no surprise to find that Blume, the company behind CTOS, isn't as pure as the driven snow, but *Watch Dogs'* lengthy five-act campaign is about more than shady corporations. Pearce butts heads with mob bosses, street gangs and rival hackers as he seeks revenge for the murder of his niece, and it's during this sprawling campaign that *Watch Dogs* is at its best. Its various systems mean Ubisoft Montreal can be more creative in its mission design than this genre's traditional loop of travel, kill and escape. You'll get yourself arrested and incarcerated, then jump between CCTV and prison guards' helmet cams to find a vital witness in the rec yard, save him from a fatal beating, then guarantee his silence not with a squeeze of a trigger but a few intimidating taps on a touchscreen. You'll ride cameras up through the Viceroy street gang's tenement compound to locate its server room, then come back and shoot your way in a dozen hours later. ▶

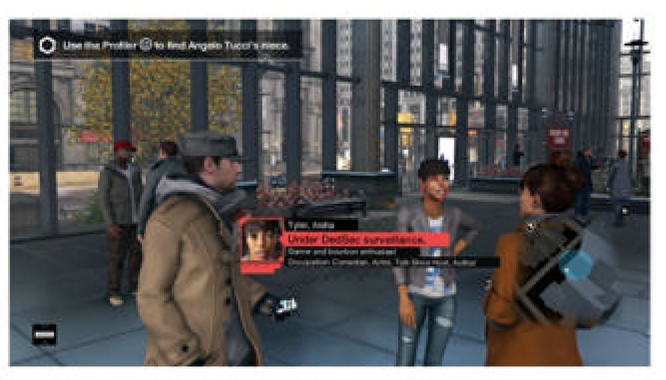


ABOVE The HUD's a little busy-looking, especially early on when you're being bombarded with tutorials. Things soon settle down, though, at least until one late-game mission when Pearce has a run-in with a fellow hacker. **LEFT** *Watch Dogs* doesn't just borrow *Saints Row's* penchant for the absurd, it pilfers its car delivery system, too. Any vehicle you've ever driven can be spawned a few yards away via a smartphone app

BELOW Aisha Tyler, comedian, actress and the host of Ubisoft's E3 conferences for the past two years, pops up in one mission, though it does rather damn the game's facial modelling. We can't imagine she's too happy with the results



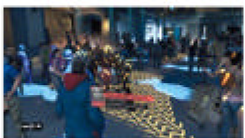
ABOVE The AR games are daft and unsatisfying, but at least they can be ignored. It's frustrating to think that a team was put to work on these instead of designing more ways to use the game's brilliant core systems



You'll use CCTV to escort a useful source to safety, guiding them from cover to cover around enemy patrols, using your various tools of distraction and destruction when there's no elegant way past. And at a mission's end, you're often given a choice: shoot your way out, or slip past unnoticed. It is, like its host city, smarter than average stuff, and clearing out a CTOS base of its dozen protectors without once moving out of cover is a thrill quite unlike anything else in this genre. When *Watch Dogs* is left to its cellular devices, it can be marvellous.

Sadly, *Watch Dogs* spends an awful lot of time pretending to be something it's not. It is infected with *Assassin's Creed*'s tailing missions and instafail stealth, both of which are at odds with the agency of the combat and hacking mechanics. AR games (collect pixellated coins within a time limit; shoot endlessly spawning aliens) and Digital Trips (bounce between psychedelic flower trampolines; create havoc with a robotic spider) could have been plucked from the cutting-room floor at *Saints Row* developer Volition. A click of the right stick activates the time-slowing Focus mode, a borrowed Rockstar mechanic that is needless in a game that makes you so powerful in so many novel ways.

Then there's the surfeit of cookie-cutter open-world distractions: chess, a drinking game, poker, slot machines, half a dozen kinds of collectible and five Investigations, most of which amount to little more than navigating to a waypoint and hacking something in exchange for a snippet of audio or video. It's not all bad: Gang Hideouts (inner-city versions of *Far Cry 3*'s excellent Outposts) and Fixer Contracts (racing challenges) are high points, but the former lack the careful design of the campaign's combat spaces, and



CITY SOUNDS

Pearce has, like most of us, moved on from boring radio, and instead plays his driving soundtrack from his phone. Sadly, he has yet to discover all-you-can-eat streaming services, meaning we're stuck with a rather slender selection. Our protagonist is a little too in love with his home town as well: he likes songs by artists from Chicago (Smashing Pumpkins, Curtis Mayfield), that once lived in Chicago (Alice Cooper), that have Chicago in the title (Flatfoot 56's Winter In Chicago) or are by the band Chicago (Wake Up Sunshine). You can find another couple of dozen songs out in the world to augment that list, but it's still not enough, especially once you edit the playlist to your tastes. It's an unwelcome bum note in a genre in which music plays such a vital role.

Pearce's clothing is customisable to a point. He's lucky Chicago has outlets trading exclusively in his signature style, with over 50 colour variations on his cap, hoodie and coat combo. Other outfits come as preorder DLC

while there are 40 of the latter, they're of wildly varying quality. The world map teems with noise, but while most of it can be ignored, you'll miss out on skills by doing so. Clear five Gang Hideouts to increase reload speed; complete ten chess challenges to max out your Focus meter. Perhaps this explains the constant HUD pop-ups offering to mark waypoints for side-missions: if you leave them all until after the campaign, you risk unlocking skills you no longer need.

This lack of focus on the premise and promise of *Watch Dogs'* own systems extends to the online modes. The *Dark Souls*-style ambient invasions are excellent, your search of the vicinity for behaviour unbefitting of a brainless NPC provoking the sort of paranoia you might feel living in a hackable, computer-controlled city. Races, however, are a flawed concept: having first dibs on every set of traffic lights and blockers means everyone in your wake faces a trail of destruction. Online Decryption, meanwhile, is an eight-way fight over a file in which you get shot in the back a lot.

It's all a bit of a muddle, suggesting an unwarranted lack of confidence in the core systems, and at times the most keenly anticipated game of this new generation leans too heavily on the conventions of the past. *Watch Dogs* was so well received at E3 2012 not for its looks, but what it promised: a truly new way to play open-world games in which the concept of agency extends beyond choosing where to go and what to do next. And whether you're on foot, behind the wheel or in combat, *Watch Dogs* delivers on that promise. Rarely has a single button done so much, and so well.

8

Post Script

Why the open-world genre's biggest success story is also its own worst enemy

We'll admit we were surprised. Until a couple of weeks before release, nothing Ubisoft had shown of *Watch Dogs*, either before or after the delay, contained anything to suggest it would ship with a glut of sidequests, minigames and busywork.

In retrospect, we should have expected nothing else from the company behind *Assassin's Creed* and *Far Cry 3*; Ubisoft spent the PS3/360 generation finessing an effective template for open-world games, and it was always going to carry that over to Xbox One and PS4. *Assassin's Creed*'s viewpoints informed *Far Cry 3*'s radio towers, and now *Watch Dogs'* CTOS control stations. Ezio Auditore's treasure chests have morphed into Jason Brody's loot containers and then the smartphones carried by Aiden Pearce's fellow Chicagoans. But what's disappointing is the extent to which *Watch Dogs* borrows from Rockstar. Despite all the advances in technology, development practices and budgets in the 12-and-a-half years since it was born, the 3D *Grand Theft Auto* remains the set text for studios making open-world games. And Ubisoft doesn't so much take a leaf out of it as lift a couple of chapters.

It's why Pearce spends a decent chunk of *Watch Dogs'* five-act campaign doing dirty work for nasty people, a fundamental flaw in any game following the Rockstar style that stars a supposedly noble protagonist. Here it is more elegantly handled at least; Pearce has no choice but to do his master's bidding after the kidnap of a family member. But even that riffs on a Rockstar concept: the plight of John Marston in *Red Dead Redemption*. Open-world games of all stripes have long struggled to reconcile their good-hearted main characters with a genre that affords the player such tremendous scope for carnage.

Another question that open-world games have struggled to answer is how to ensure players don't miss out on any of the assorted sidequests, collectibles and sundry distractions that litter their landscapes. In *GTAIV*, Rockstar pestered the player with a seemingly endless succession of phone calls from associates wanting to hang out; in *Red Dead Redemption* and *GTAV*, the sidequest-giver physically meets the player to ask for help. In *Watch Dogs*, Ubisoft doesn't seek to improve on that, exploring instead how to present it in a game in which the superhero is a smartphone. The result is a HUD popup that offers to mark a side-mission waypoint on the map with a single button press. It's far from a perfect solution, but at least it's easily ignored, and it's a preferable option to the *Saints Row* tactic of surfacing activities as missions in the main campaign.

Such iterative tweaks to the Rockstar formula should, however, be a Rockstar job, not that of a different company bankrolling a five-year project – a game whose ending, and the thousand-plus names in its credits, make it clear that this is the first in a long-running series. *Watch Dogs'* adherence to the *Grand Theft Auto* formula is far from slavish, but it is very often blatant – most obvious in, of all things, Texas Hold 'Em, which offers the same single-button skip to your next turn as *Red Dead Redemption*. If Ubisoft, one of the few companies on the planet that can match Rockstar for team size, timescale and budget, can't cast off all the old genre baggage, which company can?

Watch Dogs' adherence to the Grand Theft Auto formula is far from slavish, but it is very often blatant



At the heart of the problem lies a fundamental misunderstanding of how to effectively use all that space. Do players really want a map littered with sidequests and distractions? Does that make for a more believable world? Clearly, there's a market research paper out there somewhere that claims that it does, and the reception met by games such as *LA Noire* and *Mafia II* – games whose open cities housed a linear campaign and little else – suggest that some ancillary content is preferable to none, whatever it is. Yet those two games got something right: the population of real-world metropolises tends to go from A to B, ignoring the morass of distractions that surround them. When you set off for work in the morning, you'll stop for petrol or coffee, but never turn up late because you couldn't resist a street-corner game of chess. People that live in big cities don't really see very much of them.

Ubisoft Montreal claims the late delay to *Watch Dogs* was necessary because its core systems weren't playing nicely together, implying that work was already complete on the sundries. Had the studio focused only on creating content that served the core mechanics as effectively as its campaign missions do, not only might it have got the game out earlier, but it would have felt a good deal more coherent. Padding serves no one. Imagine being the junior developer who thought they'd got the job of a lifetime making a next-generation open-world game, and then spent three months making chess.

In Ubisoft Montreal's defence, the need to make a game that runs not only on new consoles and high-end PCs but also 360 and PS3 has surely limited its ambition. Given that *Assassin's Creed Unity* is leaving the old generation behind, it seems safe to assume that the next *Watch Dogs* will do the same. Minigames and their ilk are, like 360 and PS3, rather showing their age. Do we really need them any more? Here's hoping that the greater processing power of new console hardware isn't going to be solely devoted to making shinier, bigger versions of the games we've already played, and that future *Watch Dogs* games will ensure every playable feature will be as flexible, emergent and novel as the systems at its core. ■

Transistor

No one likes to be pigeonholed. Developers, and indies especially, seem to go out of their way to avoid accusations of forever making the same thing. Yet less than a minute into *Transistor*, you know you're playing a Supergiant game. This, like *Bastion*, is an isometric action-RPG. It, too, is easy on the eye, albeit with its predecessor's gorgeous fantasy frontier replaced with a beautiful retro-futuristic city. But what really unites these games, and defines the Supergiant house style, is voice actor Logan Cunningham. Once again, he's part guide, part storyteller, but while he was a narrator in *Bastion* – a detached observer – he's an integral part of the story here.

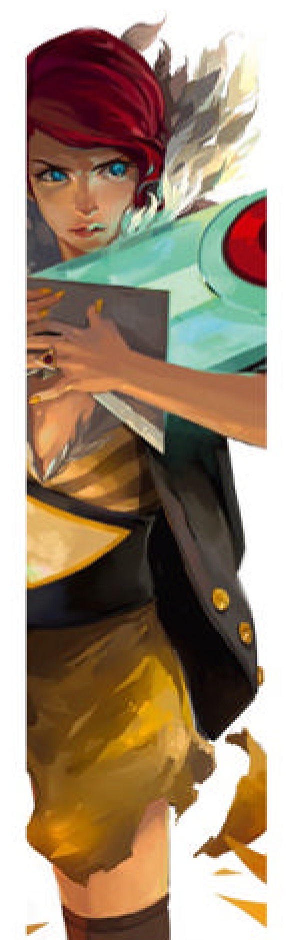
He voices a man trapped inside the eponymous Transistor, a sword of such heft that protagonist Red, a renowned singer, drags it along behind her, a trail of sparks in her wake as it scrapes the ground. The game begins with her coming to against a wall, slumped next to a corpse into which the Transistor is firmly embedded, the weapon apparently having stolen his voice and soul. Red, meanwhile, has lost the use of her vocal cords, so after freeing the sword, the two set out into the world in search of what they're missing.

And what a world. *Transistor*'s city of Cloudbank is ambiguously futuristic, a place where hazy neon sci-fi meets vintage fashion and which is entirely controlled, perhaps even created, by technology. Street-side terminals ballot citizens on tomorrow's weather, the colour of the sky and proposed building works. It's through a mix of terminals, the Transistor's clipped commentary and the game's take on text logs that we learn Cloudbank is controlled not by computers, but by the Illuminati-esque Camerata. Founded by scientists with big ideas, the Camerata's ranks have swollen with the recruitment of Cloudbank's great and good – a roll call of architects, fashion designers and athletes brought in to put a palatable face on questionable intentions. Red's on their list too, naturally, but she's different to the rest, and not only because of her gigantic talking sword: she's the only one that's still alive.

Cloudbank, you see, is a ghost town. Its inhabitants are gone, replaced by the Process – a hostile computer program that's taken physical, and highly aggressive, form. It's in combat against its robotic bestiary that *Transistor* takes its biggest step forward from *Bastion*. As before, you have a suite of attacks, here mapped to DualShock 4's face buttons, but a squeeze of R2 turns reaction-based realtime combat into something altogether more tactical. Activate Turn mode and the screen darkens, the electro-classical soundtrack becomes muffled and filtered, and time is frozen still, along with your opponents. A meter at the top of the screen depletes as you move and set up a string of ranged and melee attacks, then another press of R2 sees Red enact the plan in realtime. The gentle pace

Publisher/developer Supergiant Games
Format PC, PS4 (version tested)
Release Out now

Its combat is intricate and the story of its odd couple protagonists is both smartly written and deftly told



of Turn mode is fractured by the subsequent cooldown timer, during which you're at the mercy of your aggressors and must hunker down behind blocks of cover that disintegrate under fire. You'll soon learn to end your Turns with an evasive move to start the cooldown in a position of relative safety.

It's a deceptively simple system, and you're rapidly made to feel worryingly powerful, with those four face buttons quickly filled with attacks. Yet there is so much more to *Transistor*'s combat than early glimpses reveal. You find more moves, dubbed Functions, lying on the corpses of the Camerata's ex-members. As you level up, you'll unlock more, and more ways in which to use them. A Function can be Active and triggered with a face button; an Upgrade, changing the way an Active move operates; or Passive, giving Red a permanent buff. You're encouraged to mix up your approach – the first time you assign a skill to an empty slot, you're given a little backstory about the member of the glitterati on whose corpse you first discovered it, and you'll need to put it in all three slots to learn their whole story. But you'll be forced to switch things up, too: take too much damage and the most powerful skill in your arsenal will Overload and be unavailable for a while. And should you play things too safely, the Transistor will readily point it out. When we spend an entire Turn bar on the Crash melee move, we're chided with a dry mutter of, "Subtle."

There are other little balancing acts. When levelling up, you're faced with a series of choices: picking one of two new moves, unlocking new Passive or Upgrade slots, or increasing the Memory pool that restricts how many skills you can use at once. Limiters buff the enemy threat level in exchange for faster levelling. And downed foes spawn clusters of cells, which must be collected within a time limit or they'll respawn, adding a frantic risk to the cooldown between Turns. It's a smart, remarkably intricate system that invites experimentation long after the credits have rolled and you're into New Game Plus, where your skillset carries over and the enemy threat ramps up.

Yet *Transistor*'s greatest asset is confidence. This is a remarkably assured game for such a young studio, the work of a small team that knows exactly what it wants to do and executes it almost without error. Its art style is divine, its soundtrack is remarkable, its combat is intricate, and the story of its odd-couple protagonists is both smartly written and deftly told. It is a game made, literally, with a Flourish: tap R1 and Red flings the sword out in front of her, the blade spinning in midair as she jumps out to catch it. It's a move that serves no purpose beyond letting players traverse Cloudbank with the same easy style with which *Transistor* has been made. Supergiant may work to a template, but when it's as irresistible as this, it's easy to see why.

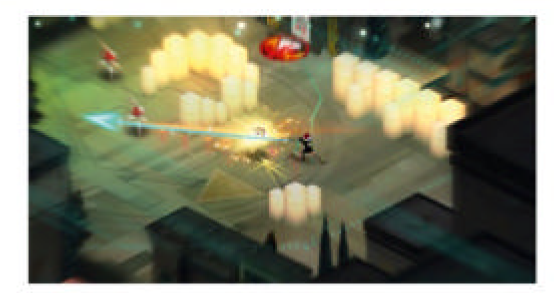
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LEFT The Process is made up of diverse parts, each requiring a very specific set of tactics. Youngladies spawn shadowy clones and then dash away after a hit, potentially wasting the rest of your Turn. BELOW Snapshots fire glowing bullets, but their principal threat is, as the name suggests, a camera lens. Cross their line of sight and a photo of a dazzled Red appears onscreen, obscuring your view.



RIGHT Breach is the second power you receive, and useful thanks to its ability to hit multiple targets in a line. Later on, assigning Ricochet to Breach's Upgrade slot means it can hit even more targets at once. FAR RIGHT These brief side-scrolling interstitials are as close as the game gets to cutscenes, an end-of-chapter transition between areas on a motorbike or hovercraft. It's hard to begrudge Supergiant them, given how smartly the story is woven into the action elsewhere





Post Script

Greg Kasavin, creative director

Before moving into development, **Greg Kasavin**, Supergiant's creative director and co-founder, was editor in chief of Gamespot. Here, we discuss how his time writing about games informed his philosophy for making them, the studio's move from sci-fi to fantasy, and why a team that made its name on 360 has seemingly switched allegiance to Sony.



How important was it to turn *Bastion*'s passive narrator into an active part of proceedings?
With *Transistor*, we wanted to create a new game with its own distinct identity and feel, [but] we did come back around to certain ideas. The narration in *Bastion* we felt worked really well, and in some respects is kind of a signature aspect of *Bastion*, so with *Transistor* it was really important that we take a different angle that made sense for the kind of story we wanted to tell. We wanted to make Logan [Cunningham]'s character an active participant, someone reacting to the events of the story as they unfold, as opposed to having seemingly omniscient knowledge of events still to come. We think it helps give *Transistor* its own distinct feel.

You've made two games in the same genre with similar mechanics, which many studios try to avoid.
It wasn't a conscious decision. The kind of games we make are born from our love of games. There are certain genres, such as the action-RPG, that we have, I think, an unlimited amount of love for. Having made a very action-oriented game in *Bastion*, we wanted to see if we could take it in this more deliberate, more strategic and rather more thoughtful direction with *Transistor*. We're the same small team that made *Bastion*, so I think to some extent you can tell that it's the same people, though we hope that comes across in a positive way.

What used to frustrate you about storytelling when you were writing about games, and how has that informed the way you make them?
The short shrift it tends to get in so many games. I feel strongly that attention to detail in narrative can make just about any game better. It's [about] using narrative to try to tie together the discrete components of a game and to establish a sense of internal consistency and continuity [for] the world. At Supergiant, we feel that narrative and gameplay can, and really ought to, exist in a harmonious state. We do our best to try to weave those aspects of the game together and make them feel as closely connected as possible. In *Transistor*, this meant tying key aspects of the story to the systems themselves, and letting players piece together the story from a variety of sources. Not just the voiceover, but also information gleaned through other parts of the game, even bits of interface. The entire story is centred on this mysterious weapon… Hopefully, players' understanding of its narrative significance will coincide with their growing understanding of all it can do from a gameplay standpoint.

"As a writer, I'm opposed to allegorical, didactic writing that has a message you're supposed to take away"

The game seems to be saying something about our attitudes to, and use of, technology.
I don't necessarily want to pin it down to a specific set of ideas. As a work of science fiction, *Transistor* can be taken to reflect on certain contemporary values. I think that's true of any work of science fiction, [which] is fascinating because of its ability to reflect the time from which it emerges. It's almost a historical document, even though it's about far-flung times. In *Transistor*, we do explore some of that, but we wanted to leave it open [to interpretation]. As a writer, I'm rather opposed to allegorical, didactic writing that has a message you're supposed to take away.



You built *Bastion* for 360 using XNA. How have you found the transition to different technology?
Transistor is based on some of the same tech we used for *Bastion*, though instead of using XNA, it uses a fork of the MonoGame framework, which lets us get on to more platforms than XNA. The transition has been smooth. We like having our own engine. Handmade 2D engines are not super-common these days, so we think it contributes to the particular feel of our games.

Why are you releasing on a Sony console first?
Sony came and played the game when we first showed it at PAX East last year, and they really liked it and wanted to see the game on PS4. We really liked their attitude to our work – they really believed in what we were doing. We really wanted *Transistor* to be on both console and PC, because we love both. We're a small team, [and] we knew we couldn't release *Transistor* on every platform under the sun at the same time, so we made a decision to go for PS4 first.

You've explored both fantasy and sci-fi now. What will you try next?
We don't know. We put everything we had into this game, and we don't plan ahead. It's almost a taboo at Supergiant, because nothing really matters until we see the response to what we're working on now. Since we're small, we don't have multiple projects brewing simultaneously. We invest everything we've got into a single project, and I really like it that way. I think with games it's important not to plan too far ahead, not to try to design the whole thing on paper, because a lot is going to change. We like to take things as they come. ■

Wolfenstein: The New Order

That subtitle couldn't be more appropriate. While *Wolfenstein 3D*, id's 1992 FPS, popularised a genre, the series' subsequent history is patchy, regularly shifting from studio to studio, its soul slowly stripped away in the process. MachineGames, a Swedish outfit made up of former Starbreeze staff, staunchly refuses to contribute to that downward spiral. *The New Order* not only makes *Wolfenstein* relevant again, it has a good go at shaking up the genre as a whole.

The first statement of intent comes early on. We stumble across a detachable mounted machine gun after clearing out some trenches. Instinctively, we grab it and wait a beat or two for the inevitable wave of Nazis to arrive. No one comes. It feels like a sideways jab at *The New Order*'s peers, setting the tone for a game that wants to assure you it's in on the joke.

More surprising still is the almost seamless meshing of a moving story of love and selfless bravery with a deluge of bombastic, tongue-in-cheek Nazi slaying. Inglourious Basterds pulled a similar coup, but balancing those disparate elements in a game is a tougher ask. Somehow it does gel: apart from one unfortunate, cringe-inducing misuse of the American national anthem, every cutscene is a melodramatic pleasure, every moment of play driven by the desire for revenge the story so effortlessly instils. The tale is schlocky and serious by turns, but it's never less than affecting and the delivery throughout is near faultless.

It's at its most profound when, during a lengthy prologue, you're forced to choose which of protagonist BJ Blazkowicz's fellow soldiers to save from a gruesome end at the hands of the returning General Deathshead, having just fought side by side in a botched assault on the General's compound. Your subsequent escape sets up *The New Order*'s alternative timeline, with an explosion knocking you unconscious. You recover from your shrapnel-induced vegetative state 14 years later to find the '60s just beginning and the Nazis in power. Having spent this time watching powerlessly as soldiers removed patients from the family-run asylum that's been providing your care, you come to your senses just as the arrangement sours and they begin executing the sick and staff alike. You escape with your carer, Anya, and make a break for her grandparents' house, and from there formulate a plan to rebuild the hobbled resistance.

A revolutionary hero needs weapons, and this one is particularly well armed. MachineGames' oversized gun designs are faintly ridiculous, occupying huge chunks of the screen and sporting barrels big enough to fit your head inside. What's more, you can dual-wield almost all of them, trading scoped accuracy for a hailstorm of indiscriminate death. All weapons have a secondary fire mode, too, unlocked as you progress. The pistol, for example, gains a silencer; the machine gun, a rocket launcher; and a close-range laser attachment makes the sniper rifle more flexible. But while weapons certainly do plenty of damage – limbs fly, heads explode and masonry crumbles – they feel oddly light, lacking the thumping feedback that their onscreen heft promises.

Publisher Bethesda Softworks
Developer MachineGames
Format 360, PC, PS3, PS4 (version tested), Xbox One
Release Out now

It's schlocky and serious by turns, but it's never less than affecting and the delivery throughout is near faultless



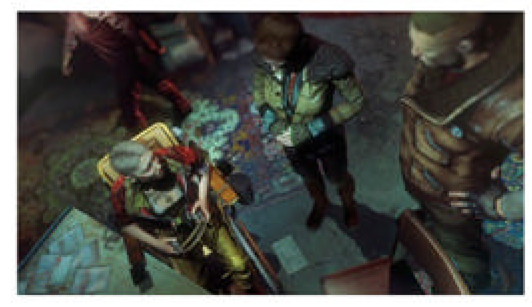
Perks, earned by meeting certain conditions, further augment your armoury, perhaps increasing the damage done by headshots or letting you carry more grenades. You also have a laser tool that can cut through chains, fences, and eventually aluminium sheeting. As you might expect, upgrades soon turn this into an anti-personnel device as well. And depending on who you chose to save from Deathshead's experiments, you'll gain either the ability to lockpick, opening up new routes, or to hotwire safes, which will grant you access to additional ammunition or armour.

Any disappointment resulting from the weak gun kickbacks is mitigated by the flexible, grin-inducing combat. Enemies use cover well, running and rolling to get to safety when you're spotted, and blindfiring to rob you of easy headshots. Given the space, they'll try to flank you, too, but they'll always target your last-known position, giving you the chance to repay the favour. Most cover is destructible, which not only breaks stalemates, but forces you to keep moving, and combat spaces are designed like multiplayer levels, full of labyrinthine corridors, vents and walkways.

You can, however, approach areas with stealth in mind instead. MachineGames has deftly avoided undernourished, bolted-on stealth sections by folding sneaking into the game's DNA, a reverential nod to Muse Software's 1981 *Castle Wolfenstein*. Central to this are the newly introduced Commanders, officer-class enemies capable of calling in reinforcements. If you're spotted, they'll retreat to a defensible area and summon wave after wave of tough, armoured backup. Take them out quietly, however, and you can then mop up forces in the area without fear of interruption. There are no vision cones or floating exclamation marks; hiding is done intuitively, and it works brilliantly. It does, however, expose enemies' blasé attitude to the sudden deaths of their colleagues, often continuing to patrol despite the prone Nazi in their path. Still, such wobbles never detract from the satisfaction of moving through an area quietly, and when you are noticed, proceedings simply flip back into satisfying combat.

The New Order is, above all, brave. Its odd mix of '90s-style FPS excess and Nazi atrocities could have come across as outdated and crass. But MachineGames maintains just as much respect for its difficult subject matter as it does for its players, and the result is a game that indulges the mature and juvenile parts of your personality in equal measure. In looking to the past, MachineGames' brass-balled Nazi shooter has secured a brighter future for *Wolfenstein*.

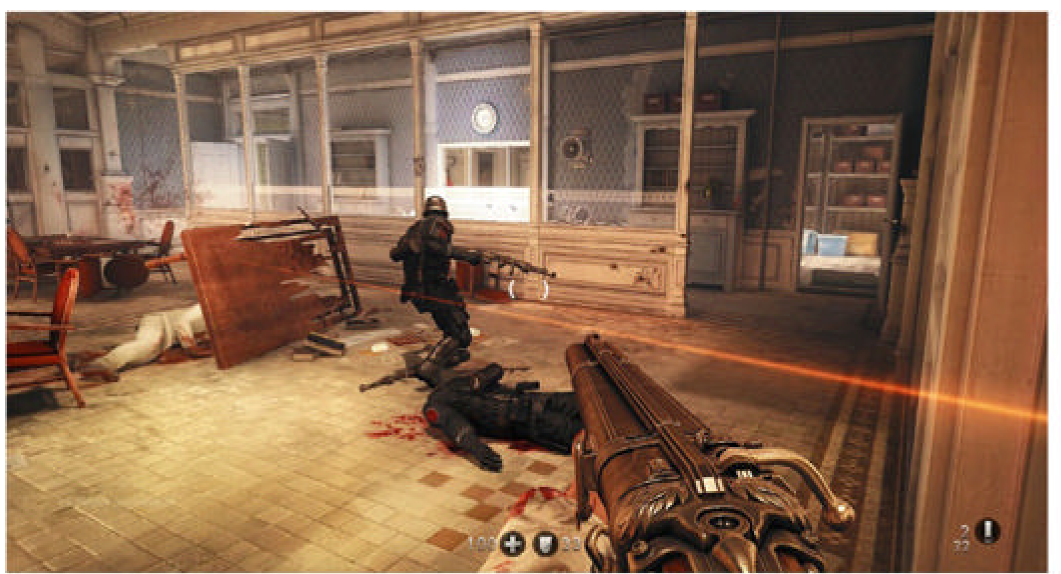
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ABOVE Caroline Becker returns, having survived being gunned down by Deathshead's personal bodyguard, Hans Grösse, in 2009's *Wolfenstein*. Now wheelchair-bound, she is the strategic backbone of the resistance







TOP The shotgun can fire standard shells or ricocheting shrapnel pellets, the latter of which bounce around enclosed spaces, shredding any enemies caught in their path. MAIN Deathshead's experiments here involve harnessing human intelligence for use in robotics, and claim many victims along the way. Of greater concern at this precise moment, however, is escaping the incinerator you find yourself in. LEFT *The New Order*'s clever cover system allows you to duck and lean anywhere you like while holding the left bumper or cover key. It's great for pulling off stealthy shots while hidden, but proves more fiddly in the heat of battle, where we found ourselves mostly favouring simple ducking

Sir, You Are Being Hunted

Two aristocratic robot hunters patrol a patch of gloomy coastline, moving back and forth around a smoking crater. We approach, using scattered boulders as cover. When we're close enough to make a dash for the crater's edge, we ready an empty bottle from our inventory and fling it high over our head. We wait for the sound of breaking glass. The robots turn and run off to investigate, and we leg it to the crater, staying low. Then we pocket another fragment of our ruined teleporter and sprint back the way we came.

Sir, You Are Being Hunted is a firstperson stealth and survival game set on an archipelago of randomly generated islands, each modelled after a corner of the British Isles. The procedural generation is meant to create an exploration challenge that's different in each campaign you play, and in a sense it succeeds. What the underlying technology fails to provide, however, is a varied range of stealth encounters. The situation described above is one you'll run into many, many times. Yes, the game's algorithm is capable of turning out lonely fenland, isolated hamlets, and industrial hinterland, but you'll spend the majority of your time snatching things from craters on rocky shorelines.

A breezy introduction sets the scene. You've been stranded on the archipelago following a teleportation accident, and only by gathering up the scattered pieces of your device and returning them to a circle of standing stones on the central island can you get back home. The dimension you find yourself in is populated by robots dressed like English gentry that hunt humans for sport. Avoiding roaming bands of these hunters as you seek out teleporter pieces provides the initial challenge. Once you've located a part, you'll then need to figure out how to distract or destroy any guards standing between you and it.

Your options are limited by the resources that you're able to gather from buildings along the way. On your travels, you might find a firearm – a rifle, revolver, shotgun or blunderbuss – that allows you to confront hunters directly. You might find an axe and attempt a quieter approach. Or you might find noise-generating gadgets – empty bottles, toy trains, an alarm clock, a trombone – and go for misdirection. Early experiments with these options are the most exciting, and your first success is likely to mark the game's high point.

Sir, You Are Being Hunted's weakness is that, despite the focus on randomly generated topography, it's a game about time, not space, since you are running against the clock. Your character has a constantly depleting Vitality meter that must be topped up with scavenged food in order to maintain health regeneration and stave off starvation. The variety and density of hunters grows as you progress, and so the pressure builds to stay one step ahead of the pack. Optimal play is therefore a matter of gathering each fragment as quickly and efficiently as possible. Experimentation is time-consuming by nature, and thus the most rewarding way to play is also the least effective. In some cases, simply running past every enemy is the best way to survive.

Publisher/developer Big Robot
Format PC
Release Out now

Although its challenge might not survive sustained play, the sense of being a trespasser never fades



The cost of failure is restarting at your most recent save point – either those central standing stones, or at one of the boats that links the central island to its four encircling ones. The threat of forced backtracking can create real tension when you're carrying multiple teleporter fragments, or if you come across rare loot in the wilderness. The lack of a quick-save option is to the game's credit, too, creating chase scenarios where you'll really endeavour to escape rather than quitting to the menu to try again. It's a stopgap measure, however, and can't make up for a general flaw in the game's design, namely that improving as a player is a case of eliding mechanics rather than exploring new ones, so that as you progress, you'll find yourself doing less, not more.

It's at your discretion to set rules for yourself – no saving, for example – but the structure discourages this. Finding every teleporter piece will take between two and six hours, depending on how quickly you take to the game, making *Sir, You Are Being Hunted* too long to be played as a roguelike. Occasionally, the simulation will throw a situation at you that warrants a diversion from the critical path, such as a firefight between rival robots that leaves corpses to pick over for ammo. Involving yourself can be a fast way to die, however.

Sir, You Are Being Hunted's greatest strength is its atmosphere, which warrants it recommendation despite its flaws as a stealth game. Although its challenge might not survive sustained play, the sense of being a trespasser never fades. Its dreamlike evocation of rural Britain favours stylisation over realism, but it's tremendously potent nonetheless. The game's colour palette suggests British comic books of the '80s and '90s – pastel pinks, oranges and muddy greens that are sharply bisected by the angry red of a roaming robotic eye.

Muted backdrops serve to highlight the characterful silhouettes of your enemies, from those gangly initial hunters to robust town-dwelling squires and squat gamekeepers. The towering landowner, a cane-wielding robot trailed by a pack of hounds, is tremendous visual shorthand for 'stay away'. There's some excellent sound design, too, and use of headphones is essential if you want to get the most out of the extensive use of audio cues. It's just a shame that this sense of threat doesn't manifest in ways that really affect you as a player.

Sir, You Are Being Hunted needs something more – a change in objective, focus or challenge to sustain engagement beyond the point when snatching teleporter pieces from robots on the coast loses its sense of mystery. As it is, it's caught in an awkward hinterland of its own.

6





LEFT Breaking enemy pathing by moving into uneven terrain is a reliable, if immersion breaking, way to survive a bit longer. Be wary of robotic dogs: they can pin you down until their masters arrive

TOP Even basic enemies are deadly fighters, so chances are you won't survive a standoff like this. Getting clipped can leave you bleeding, necessitating the use of bandages. ABOVE The rifle is the only weapon that is really effective at long range, and scarce ammo means missing carries a lot of risk. It's one to save for emergencies and the tougher later-game enemies



The entire game takes place outdoors; you can't explore interiors. Buildings act as loot chests, with each door offering a set of randomly generated items

Super Time Force

For an organisation called the Super Time Force, Capy's band of trigger-happy mercs exhibits precious little concern for causality. Perhaps its members' cheery ignorance of the potential dangers of time travel is best illustrated when a landing party flattens two bipedal reptiles frolicking with a butterfly at the start of a mission whose purpose is to prevent the dinosaurs from going extinct. And this is not the only era into which your heavy-footed band of guns for hire clatters unannounced.

Time travel is more deeply ingrained in *Super Time Force*'s DNA than slapstick, however. Your team has the ability to use Time Outs to spool back time at any moment during play, transforming death from fail state to simple inconvenience. Better still, once you've turned back the clock, you'll find yourself fighting alongside your previous iteration, doubling your firepower. Repeat this 30 or so times and you'll have a small army at your disposal.

It's an incredibly elegant system, albeit one obscured by the thundering chaos of a realtime analogue to *Super Meat Boy*'s replays. In fact, *Super Time Force* conceals considerable strategic depth behind its side-scrolling, pixel-art shooter façade.

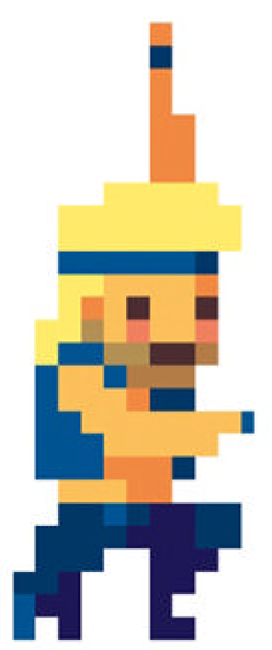
You start with just 60 seconds and 30 Time Outs at your disposal to finish each level, but you can collect floating clocks for extra time and bolster your stock of rewinds with Glorbs (golden diamonds that fly from certain enemies or objects that you destroy). In the first couple of levels, this feels generous, giving you plenty of time to make it to the end. But soon enough you'll encounter enemies that barely flinch as you fling your ordnance at them while the clock ticks down to zero. Running out of time needn't mean game over, however. You might only have six seconds to slay an end-of-level boss, but a task that seems impossible with one soldier becomes far simpler with ten – you're squeezing a minute's worth of endeavour into a fraction of the time, and that health bar tumbles down as a result.

It's not all about firepower, either. Every playable character has their own primary and secondary moves, and each is suited to a specific role. Jean Rambois, for instance, has a pitifully weak rifle, but hold down the fire button to charge his special attack and he'll unleash a volley of three-way fire. Combine him with Shieldy Blockerson, who can absorb bullets with his shield or deploy a temporary forcefield, and you can use the positions of safety you create to keep Rambois alive for longer.

Layered runs can create paradoxes, of course; should you manage to prevent the death of one of your fallen teammates, they'll remain onscreen as a flickering freeze-frame image. When collected, this gives you a hit of armour, and you'll gain their special move for as long as you can avoid being hit. You'll save other lives, too: some bonus characters are unlocked through collecting badges earned through skilled play, but others are found in precarious positions within each level. Left alone, they'll die in a variety of amusing ways, but if you can get to them in time, they'll join you.

Publisher Microsoft
Developer Capybara Games
Format 360, Xbox One (version tested)
Release Out now

Super Time Force hands you a super weapon that feels super, and then dares you to try to break the game with it



It's mind-bending stuff early on, but twitch skill becomes less important as you acclimatise to the game's rhythm. In time, you'll conduct your force like a death-dealing orchestra: individual runs are performed to complement the others, the noise dips after bottlenecks and swells in boss crescendos, and soloists make forays to collect bonuses or hold off environmental threats for others.

Your understanding of this fine art will be tested to extremes when trying to collect each level's Looker badge. The Lookers are interdimensional beings who like hanging out with really cool people. They've been watching you, and think you might make the cut, but you'll have to finish each level in dauntingly short order to prove yourself. Such punishingly difficult speed runs mean using Time Outs wisely, perhaps doing a loop with Melanie Gibson's shotgun to take doors down quickly, then Jef Leppard's bouncing-grenade launcher to clear hunkered-down foes and Lou Don Jin's lightsaber to deflect bullets back at enemies, creating a clear route through which Rambois can thread. It feels like *Trials* on foot, rewarding you with a similar sense of elated achievement when you succeed, and providing a welcome change of pace. An in-built leaderboard provides even more reason to refine these runs.

Unfortunately, such interleaved design doesn't always translate to boss fights. While levels encourage you to experiment with different characters and weapons, many of the major boss encounters are best tackled by multiplying the same character over and over again. Equally lacking in finesse is that movement and aiming are assigned to the same stick. It's far from disastrous, but dying as a result of not being able to stand still can frustrate. Still, you're only ever a button press away from rewinding and having another go.

None of this is enough to dull the sheen on Capybara's delirious take on the platform shooter, however. *Super Time Force* hands you a super weapon that feels super – one that gives you the impression you've hacked into the game's code to gain the upper hand – and then dares you to try to break the game with it. That it never buckles, despite allowing you to continually rewrite history as a horde of player characters and hundreds of projectiles fill the screen, is nothing short of remarkable.

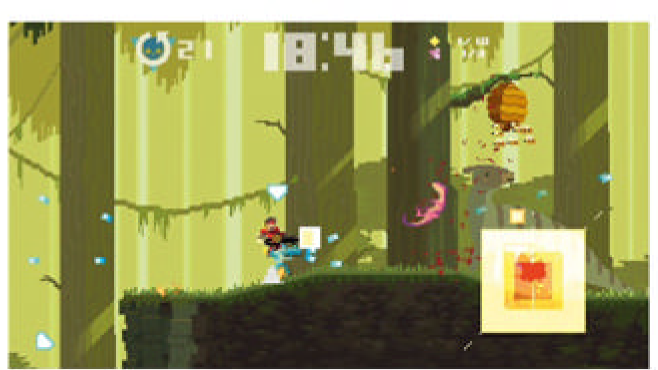
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ABOVE The opaque soldier in the centre of the screen is the current playthrough, while the transparent characters represent previous runs. Their combined firepower makes short work of this boss robot.

RIGHT You can choose to rewind just a few seconds, or the entire level, layering up characters as you go. While zipping back a little in a boss fight might seem the best course of action, often you'll gain more time it if you go back farther than that and refine your run



BELOW Blocky explosions contrast with the charismatically animated characters and enemies, but it's all relentlessly charming. The Xbox One version has a replay function, which plays back your attempt in its entirety when you finish levels





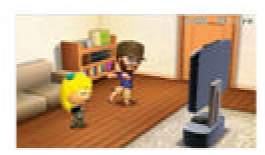
ABOVE Picking up sparkling shards slows time, allowing you to negotiate otherwise-deadly barrages or get in close for a kill earlier than normal. It's essential for getting through levels fast enough to meet the Lookers

Tomodachi Life

Part soap opera, part sitcom, *Tomodachi Life* is an ostensibly odd and subversive life sim underneath which beats a quietly conformist heart. It asks you to cater to the whims and needs of the Mii characters inhabiting a steadily growing island community; you'll earn money by making them happy, which is invested in new items in order to continue satisfying them. Given the company's oft-stated desire to put smiles on faces, it could be seen as a satire of Nintendo's own corporate policy: keep everyone happy and business will be good.

It begins with you creating a Mii doppelgänger, your lookalike's traits determined by a series of sliders. Do they speak caringly or directly? Are they energetic or lethargic? You can adjust the pitch and tone of their synthesised speech, too, but as a general rule, the more deadpan the voice, the funnier the interactions are. We never tired of our Mii expressing shock with a sotto voce "gosh". That 'Tomodachi' sounds like 'Tamagotchi' may be coincidental, but at times your involvement feels a lot like caring for a digital pet, even if managing your community is less demanding than looking after a single Nintendog. While there are timed events, many are available during multiple time slots, and you won't be punished for ignoring your islanders for a few days.

Publisher/developer Nintendo (SPD Group No 1)
Format 3DS
Release Out now (JP), June 6 (EU, NA)



PORT FORWARD
When two of your Miis have produced a child, you can give them a special solution to instantly age them. Once they've reached adulthood, you're encouraged to make them an explorer. Send them out from your port and they'll visit other players' islands via StreetPass, posting letters back from their travels. Explorers that visit your island will pitch a tent for an overnight stay, during which time you can spend Play Coins to buy rare products from them that you won't find in your stores. Local play is also supported, enabling two nearby players to exchange Miis, food and clothes with each other.

As with *Animal Crossing*, beneath the welcoming exterior lies an indictment of humanity's rampant consumerism. You feed and clothe your Miis, buy new interior designs for their apartments and give them gifts, with each problem solved topping up your cash, which you'll spend on amassing a faintly meaningless haul of items. Some are purely decorative, while others prompt new interactions, and it's the latter that keep you coming back. Context is crucial, and mundane exchanges are made amusing by the participants – we won't forget Satoru Iwata beating C-3PO in a rap battle any time soon. Often it's your own personal touches that provide the comedy, with the ability to select phrases for characters to say in certain situations. Elsewhere, the juxtaposition of cartoon characters and realistically rendered objects, including giant digitised hands with which you can applaud at weddings or pick fluff out of hair, injects a Gilliam-esque surrealism.

Given Nintendo is considerate enough to publish an annual report discussing how its practices could effect positive societal change, it's doubly disappointing that *Tomodachi Life* promotes a lifestyle that will exclude many, with some features gated off until two characters get married and have a child. Otherwise, this is a delightfully strange and often surprising piece of work; it's more plaything than game, perhaps, but the smiles it generates will be broad and frequent.





Daily events are often enlivened by your input, but the Quirky Questions quiz is unusual enough to begin with, as participants raise their hands to admit they'd rather have been born as a bookshelf, for instance

Daylight

Zombie Studios' procedurally generated horror game is flawed from its concept up. The best horror relies on a combination of dread and surprise, tension and jumpy release – elements that are carefully authored. Handing responsibility over to an algorithm might seem like an intriguing technical exercise, but proves a poor alternative to craftsmanship.

It might not have been so bad if the building blocks Zombie has designed were put together in interesting ways. *Daylight*, however, assaults you with stretch after stretch of indistinct corridor and repeated room layouts. In one playthrough, we navigate a section of prison that contains four canteens and three information desks. Procedural issues aren't limited to architectural doldrums, either: protagonist Sarah's exclamations often don't tally with what you're seeing. At one point she asks, "Is anyone there?" as we stare at a ghostly apparition standing right in front of us, wailing.

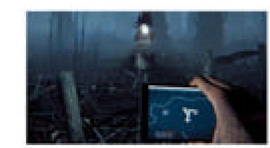
That's not to say you won't jump a couple of times. There are plenty of potential scares: a stack of boxes collapsing loudly; a drip pole skating across your path; one of the game's screaming women materialising right behind you. But their effect is dulled through repetition, only the latter retaining any ability to give you the willies – and then simply because staring too long at the ghosts will kill you, meaning you have to restart the section from scratch thanks to brutal checkpointing.

In fact, the scariest thing about *Daylight* is that it's running in Unreal Engine 4. It's artistically and technically impoverished even on a powerful PC. By the time you've reached the sewers, having trekked through a samey hospital and canteen-riddled prison, your patience will be wearing thin.

Each new area is accessed via a magically sealed door that's unlocked with a Sigil. These only appear once you've collected a certain number of notes from each area. As you hunt, you can light glowsticks to highlight clues and use flares to banish the more aggressive spirits in a shower of sparks. Come across a cabinet containing a stash of either when your inventory's full, however, and the items disappear, meaning you can't return to then later – a problem compounded by the fact that cabinets can also contain notes.

Exploration sections are interspersed with rigidly designed puzzle areas, but these, damningly, are little better than the randomly assembled segments. Baffling design decisions and over-reliance on the same tricks further mar this already unpleasant journey. In the right hands, procedural generation can provide reasons to return to familiar haunts, but *Daylight* offers little motivation to make it to the end even once. **3**

Publisher Zombie Studios (PC), Atlus (PS4)
Developer Zombie Studios
Format PC (version tested), PS4
Release Out now



STILL TWITCHING
Daylight allows Twitch viewers to interact with the game by typing commands into the comments window. The list of actions hasn't been published, so it's a case of trial and error, but the right words can trigger events and sounds in-game. It's an intriguing idea, but the reality is that it all merges with the game's own list of hit-or-miss scares and risks further diminishing their efficacy through repetition, and that's if you can get connected at all.

The appearance of *Daylight*'s ghostly female antagonists is heralded by a stuttering noise, which is genuinely unnerving. Stay in proximity too long and you'll end up dead, but in most cases you can simply run past them



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Donkey Kong Jungle Beat

The platformer that heralded a motion-control Revolution

By Chris Schilling

Publisher/developer Nintendo (EAD Tokyo) **Format** GameCube **Release** 2005

Clap three times. Each time your hands meet, a spotlight blinks into life against a curtain of leaves. When the third arrives, a buzzer sounds and the foliage parts to reveal our hero, who roars and beats his chest, sending a cloud of birds fluttering off the screen. The way *Donkey Kong Jungle Beat* begins says a lot about how EAD Tokyo sees its simian protagonist. In recent outings, he's been cast as the irresistible force among many decidedly movable objects. He's still a powerhouse here, of course, but he's something else, too: a showman.

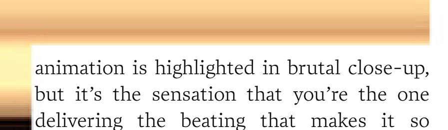
Not that he performed to much of an audience. GameCube was an evolutionary cul-de-sac in many respects, and was comfortably outsold by its competitors. Yet this unassuming purple box played host to a series of games that arguably represent one of Nintendo's most creatively fertile periods. *Luigi's Mansion*, *Super Mario Sunshine*, *Pac Man Vs*, *Odama*: all were experimental to some degree, and while none was wildly successful, collectively they suggest a desire to shake things up.

By the time *Jungle Beat* arrived in 2005, we already knew a Revolution was on the way, soon to become known as Wii. 'New ways to play games' was Nintendo's mantra, and what better way to celebrate that ethos than by releasing a platformer controlled by a pair of novelty plastic bongos? The peripheral had been made to play *Donkey Konga*, a home console version of Namco's *Taiko No Tatsujin* in all but name, and yet *Jungle Beat*'s design works in such perfect harmony with the controller that it feels as if the two were developed in tandem. You could never argue it did for the bongos what *Super Mario 64* did for the analogue stick, but both games seem to benefit from a similarly holistic approach to design. Four years later, *Jungle Beat* was re-released on Wii under the New Play Control banner, ironically adopting a more traditional control scheme than before. It remains a fine platformer, but the absence of the peripheral is felt keenly.

Of course, Nintendo's goal for Wii and DS wasn't just accessibility, but equity. These new ways to play were designed to level the playing field between newcomers and veteran players, and *Jungle Beat* was one of the first Nintendo games to embrace that ideal. As such, its early stages may prove a ruder awakening for platform game enthusiasts than beginners. It's immediate enough to require no instructions – indeed, you're instantly thrust into the limelight after DK's chest-thumping introduction. Tapping a bongo skin moves him left or right; slapping both together causes him to jump; clapping next to the built-in microphone triggers a shockwave that's used to stun enemies, and also performs context-sensitive actions. You're invited to discover the nuances of this seemingly rudimentary setup for yourself.

Even before you consider mastering its unusual controls, however, *Jungle Beat* offers the rare sensation of feeling like you're inhabiting a videogame avatar rather than simply controlling one. In its revival of the *Donkey Kong Country* series, Retro has endeavoured to capture the physicality of gaming's most famous ape, but no amount of noisy sound effects and collapsing scenery can quite replicate the sense of direct connection here. You'll slap the right skin repeatedly to increase DK's speed as his huge hands press against the ground to build momentum. You'll clap, and those hairy simian palms will meet onscreen.

And then there's the way you deal with *Jungle Beat*'s menagerie of enemies. Mario's treatment of the Mushroom Kingdom's bestiary isn't exactly gentle, but no other Nintendo game feels as aggressively violent as this. You're commanded to pummel away at stunned opponents, leaping atop fuzzy boar-like creatures before mercilessly thumping them until they explode in a shower of bananas, or spin-juggling hapless armadillos with repeated uppercuts. Elsewhere, you'll pluck explosive pineapples from the ground to launch them into the snout of an elephantine boss, or return melons thrown with vicious force by a marauding boar. Grasping the tongue of a blowfish and dragging it backwards before letting it snap home like an elastic band might make you wince if you weren't enjoying it so much. The expressive ▶



animation is highlighted in brutal close-up, but it's the sensation that you're the one delivering the beating that makes it so wonderfully, troublingly gratifying.

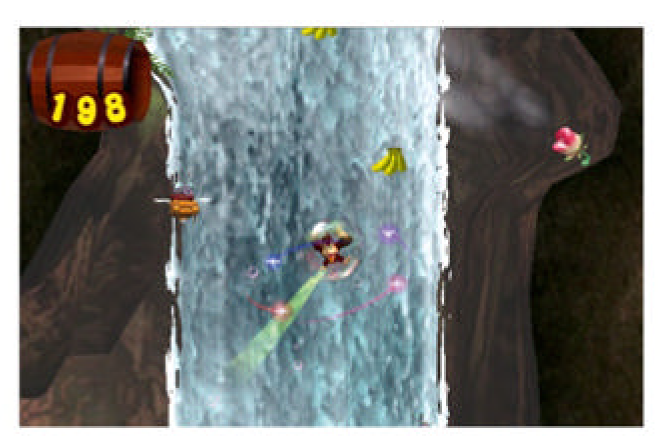
Jungle Beat serves DK's primal instincts well, then, and it never forgets that apes are nature's acrobats. Before long, you'll find out that there's more to his repertoire than simply running and jumping. Halt a run by hitting the opposite skin before quickly beating both drums and you'll pull off a backflip. Hit both skins simultaneously in midair and you'll perform a ground pound. Hit the top of a low wall while jumping and you'll complete an edge hop. Stringing these together without hitting the ground builds a multiplier that increases the number of bananas you'll collect thereafter – either by jumping into them or clapping to pull off a midair grab. The presence of enemies transforms this combo system into a high-wire balancing act reminiscent of the *Tony Hawk* games – it's all about knowing when to land. There, a single misjudged trick or grind could cost you a huge score; here, you'll lose all the bananas you gained if you're hit before you touch down.

It's not the only thing the two series have in common. Both have a similar reliance on momentum and flow, asking you to chain simple commands into increasingly elaborate combinations to produce a single display of gymnastic excellence. At times, the route is straightforward, although following it successfully is another matter. Take the superb Monkey Fest, where you can stay in the air for the entire stage, and which feels like a piece of palm-stinging performance art. During this level, you'll clap to grasp the hands of grey monkeys in bushes that throw you to your destination, you'll clap to free airborne bananas from their bubble prisons, and you'll clap to stun the fuzzy insects that threaten to stop your fruit total from climbing into the hundreds. It sounds simple, but timing is everything.

The bananas are a marvellously efficient piece of design, one that Nintendo arguably hasn't bettered since. These 'beats', as the game's parlance would have it, function as both your score and your energy meter, the object being to amass as many as possible to give you a buffer against the guardian at the end of each two-stage kingdom. The crests you earn from defeating the boss in turn act as currency for unlocking further worlds.

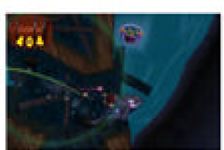
Such a streamlined setup gives the game a strong sense of focus, which extends to its noticeable absence of narrative frippery. In truth, *Jungle Beat* is perhaps a little too generous: later levels don't require too many crests to open up, so even novices will be capable of muddling their way through to the finish. Only players with the desire and self-motivation to earn the Platinum crests – which demand near-immaculate performances across two successive stages, and that you escape damage entirely during the boss encounters – will come close to exhausting the game's potential.

MONKEY FEST, WHERE YOU CAN STAY IN THE AIR FOR THE ENTIRE STAGE, FEELS LIKE PALM-STINGING PERFORMANCE ART



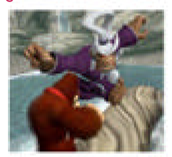
The frantic pace drops when DK is encased in a bubble. The soundtrack reflects this, segueing into a delicate, soothing melody while you float upwards. The level's standard theme resumes as soon as the bubble pops



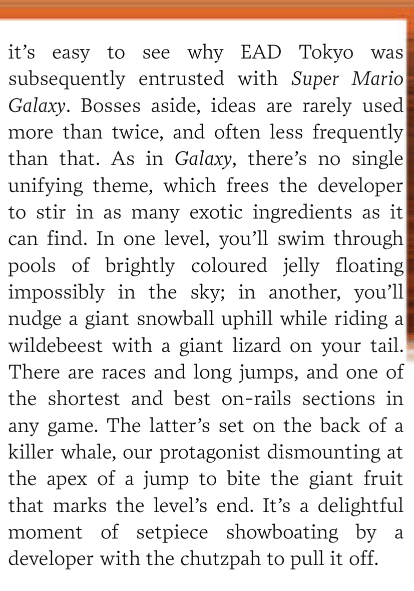


More often than not, the path of least resistance is also the path of fewest bananas. Most levels hide secret areas, while others have multiple routes. Resist the temptation to leap from the orca and you'll be taken to a part of the level you haven't previously explored

KONGS OF THE JUNGLE



Jungle Beat's most entertaining boss fights are the four battles against rival apes. They play like a simplified *Punch-Out*: your opponents have a variety of tells to read as you clap to dodge blows and counter with right or left hooks. Occasionally, you're given a small window to interrupt attacks, though your foes will also feign advances, winding up punches they never release, potentially leaving you open should your response fail to connect. Each brawl is dramatically staged, from a fight in torrential rain to another atop a meteor, while the soundtrack's driving rhythms are augmented by the percussive thuds of each hit you land.

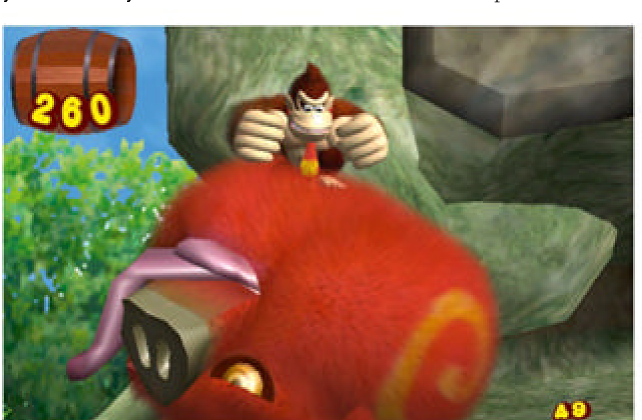


Then again, perhaps that's why *Jungle Beat*'s appeal endures. For many, its brevity is a boon, partly because it's a demanding physical challenge. An afternoon's worth of solid play will leave your palms sore, even if a sharp tap against the bongos' plastic exterior proves an adequate substitute for clapping. There are no extras, no boss rush modes, no time attack variants. *Jungle Beat*'s singular focus is even more unfashionable in the current climate, where the word 'unlockables' encompasses a great deal more than simply 'new stages'. Rather, this is a game whose levels are designed to be replayed, whose structure subtly encourages mastery. Besides, it's only fitting Nintendo should return to its arcade heritage with the character that first transformed its fortunes in the videogame market.

Naturally, it would all fall apart if the levels couldn't withstand repeat visits. But it's easy to see why EAD Tokyo was subsequently entrusted with *Super Mario Galaxy*. Bosses aside, ideas are rarely used more than twice, and often less frequently than that. As in *Galaxy*, there's no single unifying theme, which frees the developer to stir in as many exotic ingredients as it can find. In one level, you'll swim through pools of brightly coloured jelly floating impossibly in the sky; in another, you'll nudge a giant snowball uphill while riding a wildebeest with a giant lizard on your tail. There are races and long jumps, and one of the shortest and best on-rails sections in any game. The latter's set on the back of a killer whale, our protagonist dismounting at the apex of a jump to bite the giant fruit that marks the level's end. It's a delightful moment of setpiece showboating by a developer with the chutzpah to pull it off.

Jungle Beat was never likely to be anything more than a footnote to a period of history that its maker would sooner forget. And yet a case could be made for it being the quintessential Nintendo game. On the one hand, it highlights the internal conflict at the heart of the company – its desire to cater to younger players and an expanded market without alienating the faithful. On the other, it demonstrates an uncanny knack of tailoring software to fit unconventional hardware. That it works at all is a surprise; that it's quite this good is close to miraculous. It's only fitting, then, that the repeated claps you'll produce during DK's journey sound a lot like applause. ■

The sheer animal ferocity of DK can be surprising. Stun furry hogs with a sonic boom from your clap and you're left to pummel them with your fists until they deflate







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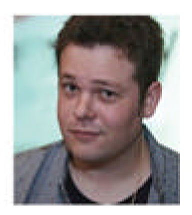



The development game

The divergent videogame industry of 2014 moves fast, so what ensures that you have the best shot at working in it?







FROM TOP **Media Molecule studio director Siobhan Reddy; Frontier Developments founder David Braben; indie developer Mike Bithell**

You may be able to code your way out of any problem in C++, or knock up a mean run cycle in Maya, but if you really want a studio to take notice, there's one piece of advice you must not ignore: set aside time to create a showreel of your work. "I can't impress on people enough how difficult it is to glean any information from written CVs," **Siobhan Reddy**, studio director of *LittleBigPlanet* and *Tearaway* creator Media Molecule, tells us. "In this incredibly competitive field it's assumed that people have a wide range of skills and a clear talent within their chosen field; it's really important for us to be able to see the results of the skills that you have.

"Demonstrating that you have made something good actually tells us a lot. From that we can find out about your taste, your ability to dream up ideas, your ability to figure out what needs to be done to implement it, your ability to stay focused, your ability to finish, and most importantly we can see what your 'finish' actually looks like. And if you've worked with a team, we can use that example to find out about team dynamics, or how you organise yourself and others."

And thanks to the success of indie productions in recent years, the ability to promote yourself well, irrespective of whether you intend to go it alone or find a role at a studio, is more important than it's ever been. But while the 2012 documentary Indie Game: The Movie might paint a romantic picture of bedroom coding, industry experience is invaluable.

"Graduates have traditionally entered our industry by joining existing developers and experiencing the many different elements that go into making a triple-A game alongside talented, experienced colleagues," says *Elite* co-creator and founder of Frontier Developments, **David Braben**. "In the last few years indie development has again become a possibility, but success is more typically from people who already have industry experience. Ultimately I think it's generally a sound choice to join an established studio to understand what it takes to deliver a high quality title, even if your ultimate goal is to be indie."

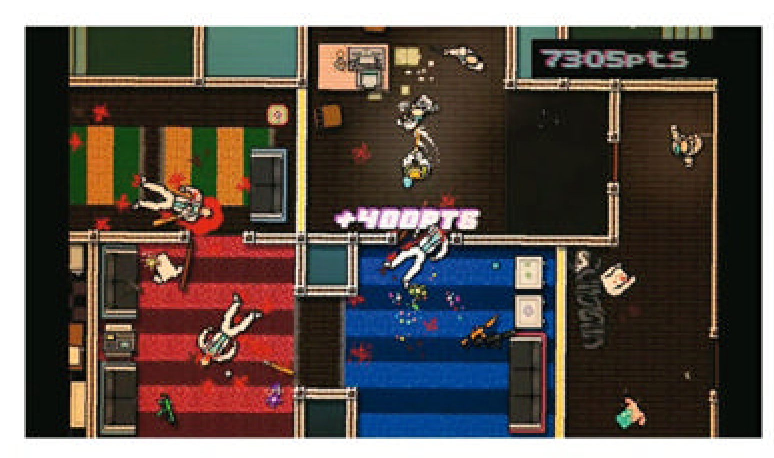


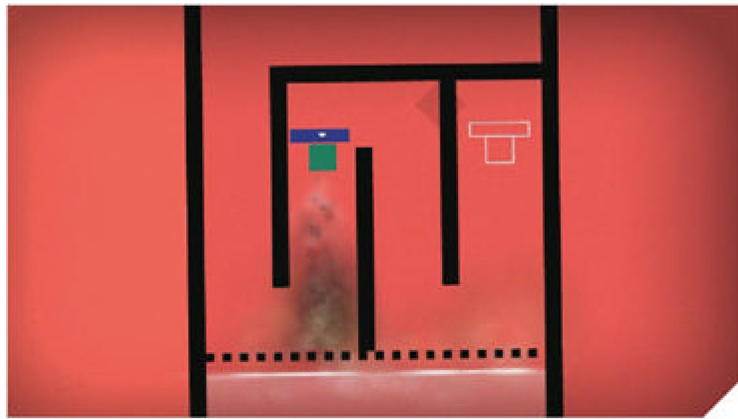
The Guildford-based Media Molecule is best known for *LittleBigPlanet*, but it also created the first great Vita game in papercraft adventure *Tearaway*. Of the company's staff, only about 50 per cent went to university

Mike Bithell, who spent just over five years working in various design roles at Blitz Games Studios and Bossa Studios before reworking his Flash game *Thomas Was Alone* into the highly successful PC and console versions, agrees: "We've seen a number of folk drop out of uni or not go at all, and find big, loud success as indies – Vlambeer are good examples. However, you have to be a genius, and few are; I certainly couldn't have done it that way.

"My advice to students remains the same: find clever people and surround yourself with them. I'm always a bit worried when a student tells me they're graduating and starting an indie company with friends. That's a big risk – you're bound to make mistakes, and learning them on your own is never fun."

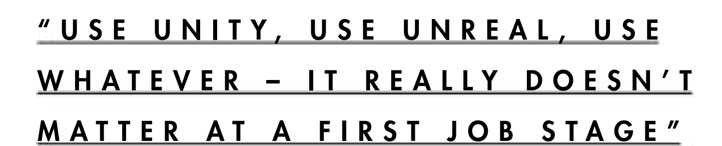
Thomas Was Alone was built in Unity, the game-creation tool that was itself built by indie developers in a basement, and one that has enjoyed huge popularity in recent years thanks to its combination of accessibility, power and, of course, the fact that the basic version is free. Until recently, it was the most obvious choice for smaller projects and prototyping, but nowadays more – and larger – studios are using it. But as Unity continues to increase its reach and add extra functionality, the traditionally triple-A-only engine makers







CLOCKWISE FROM LEFT **Mike Bithell's *Thomas Was Alone* proved succesful enough to fund *Volume*; *Hotline Miami* is testament to what can be achieved with game-creation tools like GameMaker; *Elite: Dangerous*'s origins lie in the formative indie scene: David Braben and Ian Bell created the first *Elite* during their time at Cambridge University in the early 1980s**


"USE UNITY, USE UNREAL, USE WHATEVER – IT REALLY DOESN'T MATTER AT A FIRST JOB STAGE"

are beginning to compete at the more accessible end of the market, too.

Epic's Unreal Engine, which was previously the preserve of studios with hefty budgets, can now be licensed for $19 per month. Just days after Epic revealed its new, more affordable pricing structure, *Crysis* and *Ryse* developer Crytek made its CryEngine available to licence for $9.90 per month. Both moves were driven, of course, by the rise of smaller development studios and increasing popularity of mobile games. Even prior to this shift, though, both engines were available at no cost for non-commercial use.

But while Unity, Unreal Engine and CryEngine now constitute the 'big three' commercially available engines, there are other affordable options, too. Chief among these is YoYo Games' GameMaker which, while less powerful than the aforementioned examples, is behind some of the biggest indie successes of recent years, including Derek Yu's *Spelunky* and Dennaton Games' hyper-stylised *Hotline Miami*.

Bear in mind, however, that while all-in-one game creation environments are certainly handy, most studios also use traditional art packages such as Maya, 3DS Max, Photoshop, ZBrush and Mudbox, and still others build their own tools from scratch. Ultimately, though, it doesn't matter what packages you have experience in, just so long as you can demonstrate your abilities. Tools can be learned, but creative chops less so.

"For design and gameplay programming, a thorough understanding of the process is what matters," says Braben. "How you get it is secondary, but the understanding of what works is key. There are many tools out there, each with their strengths and weaknesses; what matters is the quality of what you have produced and your understanding of what is good about it, not so much the tool or tools it was produced in."

"Specialists require specialist tools, but honestly, software is easier to train than art or design skills," says Bithell. "Use Unity, use Unreal, use whatever – it really doesn't matter at a first job stage. Software is a tool, not a qualification."

While you should be motivated to work on your own projects, one of the best ways to gain knowledge and experience of a variety of different tools is, of course, by embarking on a degree. Choosing the most suitable course for your specific needs is key – the interviews with course leaders of various universities over the following pages will help you get a sense of the sheer variety of approaches now available in game education – but how much water does ▶



a degree hold with developers looking to recruit these days?

"When I was a student, only two per cent of the population went to University," says **Steve Jackson**, who co-founded Games Workshop and Lionhead Studios and now lectures at Brunel University. "A degree was an impressive qualification – it opened doors. But now that around 50 per cent of people go into tertiary education, there's no question that the 'worth' of a degree has diminished."

Jackson adds that he always makes it clear to prospective students that employers generally prefer experience over qualifications, but points out that when two candidates with no industry experience compete for a job, it's the one with the qualification who will likely have the edge. "Three years of studying game development indicates they are pretty serious about a career in the industry," he says, "and not just fanboys!"





FROM TOP **Lionhead and Games Workshop co-founder Steve Jackson; lecturer Justin Parsler, who teaches Games Design at Brunel University**

Braben also sees general value in degrees, irrespective of the subject studied. "A degree in *any* subject shows the ability to follow through on a commitment; it shows that the applicant can apply themselves over a long period of time," he says. "In many cases it doesn't relate much to their eventual career – though our industry is an exception, where it can help there too. Generalist degrees like computer science are great, for example, but maths or physics are also useful even in game programming, as long as the applicant has a good feel for algorithms and problem-solving."

He's more wary of highly specialised degrees, however, warning that there is a danger that a particular specialism can become out of date quickly in such a fast-moving industry, or even cover too narrow a remit to be more generally applicable, limiting available roles and potentially constraining your future career.

Bithell shares his concerns. "I would always encourage non-specific degrees – computer science over game programming; art over concept art," he says. "The syllabuses I've seen seem to be lower skill count at the end of the course on game-specific courses, so I'd encourage direct comparison. Of course, there are standout game courses and awful traditional courses, too."





ABOVE **Some of Media Molecule's team had never made a commercial game before, while others were very experienced. "It's about the work," says Reddy. "Graduates have as much chance as anyone else."** RIGHT **Raspberry Pi aims to help kids learn to code**

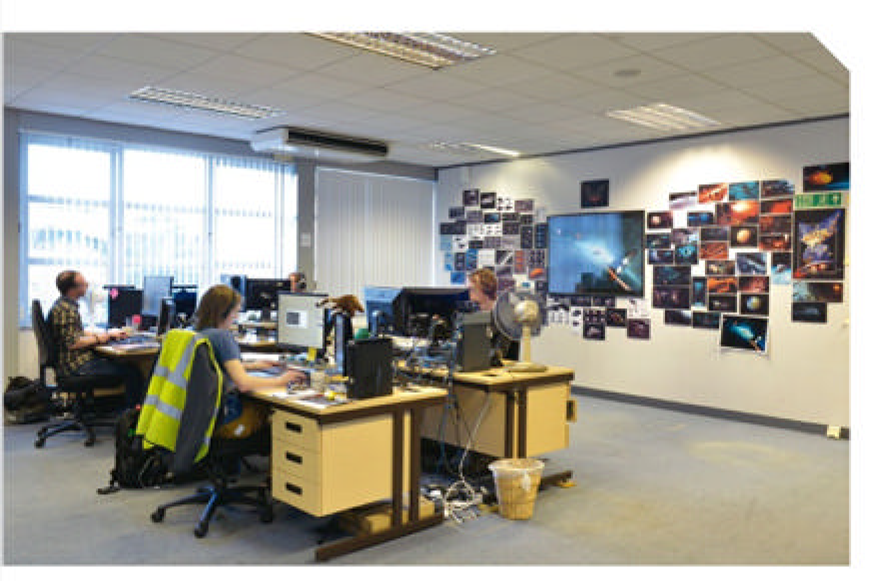
Reddy, who after doing a quick straw poll reveals that Media Molecule's split between staff with a degree and those without is roughly 50/50, points out the differing expectations between roles. "It's unusual for us to hire a programmer who hasn't been to university," she says. "All but one of our coders went to uni, but not all of them studied computer science! But it's more common in other disciplines for us to hire people who haven't attended university. We look for people who can demonstrate their work to us, and we aren't prejudiced about how people have learnt these skills. Lots of great people went to uni, and lots of great people didn't. It's not binary."

Braben is similarly open-minded: "I wouldn't distinguish game education from other disciplines. Frontier takes candidates who are from top schools in their field, be that computer science, animation, technical art, etc. I think it's important students are taught a broad range of skills, and the game-specific elements for all disciplines – except possibly game design – are just a small part of a rounded education. In programming we compete with the banking and film industries; in music, sound, art and animation we compete with film, advertising and TV.

"But I've noticed in the last year that there has been a dramatic increase in the number of applicants to study computer science at university – the dramatic fall in computer science applications in 2001 was one of the things that gave us the impetus for Raspberry Pi in the first place – for me, at least. Hopefully that rise is partly due to the phenomenal success of Raspberry Pi!"

And ensuring that any such influx of students are taught relevant skills is a continual challenge for universities. "This industry moves so quickly that it's difficult to keep up with what's happening in the real world," says Jackson. "Just as studios are guessing at what will be the industry standards when their game is complete, we are trying to guess what skills our students would benefit the most from, and where we can find an 'expert' who can teach those skills."

Justin Parsler, who lectures in Games Design at Brunel and has been making



At Frontier, programmer interviews are test-based, Braben reveals, "but we select candidates based on good qualifications, relevant experience and – although currently to a lesser extent – sample projects"

games professionally for 16 years now, notes the reduction in new game-related degrees being offered of late: "The last few years seemed to see swathes of new game courses, but that seems to have slowed down – perhaps as institutions discover that teaching games is actually quite hard! It takes more than just industry knowledge, and more than just academic knowledge – you need both. Generally, though, higher education is getting better at teaching games, and that trend will only continue. It won't be many years before a games degree of some kind will be pretty much mandatory to get into the industry, as those graduates will be so far ahead of the game."

Whether or not that turns out to be true, it's certainly the case that there have never been more routes in to a game industry career than there are today. Traditional roles such as programmer, sound engineer, artist and game designer are now flanked by a litany of less-familiar job titles driven by new business models. Free-to-play, games as services, Early Access and even young genres like MOBAs require all manner of new skills and, perhaps most importantly, an ability to communicate directly with players.

"Maintaining news to and from the community, analytics, Kickstarter, public relations – these sorts of areas would have been considered at one time to be the responsibility of the publisher," says Jackson. "But in the New World Order, the studios themselves must handle all this stuff."

He goes on to identify the increasingly granular nature of many traditional roles. A lead designer, for example, used to be responsible for all aspects of a game's design, but today there are more specific divergences such as level designers, UI designers and combat system designers. Braben, meanwhile, talks up the importance of interpreting anonymised tracking data from online multiplayer games such as *Elite: Dangerous*, and the huge demand for people with skills relating to computer network activity.

"Right now, a lot of those [statistical analysis] jobs are staffed by people without mathematical training, so it'd certainly be interesting to see maths graduates entering those roles," says Bithell. "I'm also interested in the role of entrepreneurial types in the burgeoning indie scene: a lot of designery arty types like me need the help, and I'd like to see what an indie producer or manager might be like."

"The exciting thing about right now is that people generally arrive with a variety of skills," says Reddy. "Some cross-disciplinary, while others are totally laser focused, and we're still finding interesting ways to use all of the skills available to us. For example, our community and web team impact our game design all the time. It's only the tip of the iceberg: as new skills emerge, new opportunities emerge which aren't always to do with roles but sometimes mean that we can innovate experiences within, or even outside of, our games. For us specifically, QA, community management and customer service are all areas in which I imagine we will see new roles emerge. We've dipped our toes in the 'service' waters but our next project will take that even further and so I expect these areas to change shape over the next few years."

But whatever role you want to take up, and however you learn your skills, everyone we talk to for this article agrees that the most important trait in a strong applicant is an inquisitive mind. "I want an applicant's work to show engagement with other people and games, be that the incorporation of feedback into work, intelligent adaptation of ideas from elsewhere or whatever," Bithell explains. "The best portfolio I ever saw was a student who'd done an analysis of their favourite *Quake III: Arena* level, breaking down why every object was placed where it was, and why each wall the exact height it was placed. I want to see an applicant who's ready to learn." ■

"IT WON'T BE MANY YEARS BEFORE A GAMES DEGREE WILL BE PRETTY MUCH MANDATORY TO GET AN INDUSTRY JOB"

EARLY ACCESS

Though by no means a guaranteed route to your dream job, creating content for games is one way you might attract a studio's attention. "We've hired plenty of people from the *LBP* community," says Reddy. "There was a time after we released *LittleBigPlanet* where one third of our team was hired directly from the community! That number is less now, as we have grown, but the *LBP* Vita games and PS3 DLC has been made by teams that have been largely made up of *LBP* community members. Early access or betas can end up being tools at the end of the day, and if people use their initiative to use a tool to create an impressive portfolio then all power to them. We look for people who look for opportunities to show off, so we've always been impressed with people taking this route and showing ingenious results."

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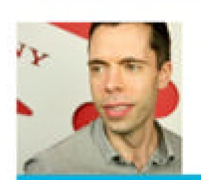


PlayStation First

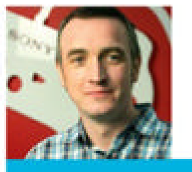
Sony is helping to train the next generation by putting hardware in its hands



DR MARIA STUKOFF
Head of academic development, XDev Studio
www.worldwidestudios.net



LUKE SAVAGE
Academic development manager, SCEE R&D
www.develop.scee.net



MARK SAMPLE
PlayStation First producer, XDev Studio
www.worldwidestudios.net

Sony's PlayStation First initiative builds on the spirit of Net Yaroze with its mission to make PlayStation development accessible to all. Well, almost all: PlayStation First puts PS3, Vita and now PS4 development kits into the hands of students at a select but growing number of universities that meet Sony's high standards. Now in its fifth year, PlayStation First is expanding its team and its remit.

"Allowing the next generation of game creators to develop on the PlayStation platform while studying is a great advantage," explains **Dr Maria Stukoff**, head of academic development at Sony's Liverpool-based XDev studio and the person responsible for launching PlayStation First in 2010. "From day one, students are exposed to the actual hardware they will use when finishing their course and entering the job market. This really does allow them to hit the ground running."

It's a mutually beneficial relationship, of course, since it grants Sony a direct line to waves of newly trained, PlayStation-savvy developers. **Mark Sample**, whose development credits include *Prey*, *Driver: San Francisco* and a stint as game director on the recently announced *Hitman* game, joined PlayStation First earlier this year as producer. Alongside all this, he's been heavily involved in teaching for the past five years, and now works closely with university teams to find talent and help students learn a variety of skills, including design techniques and PlayStation best practice.

"It's important to us that we are there and working with talent to share our expertise in making games," Sample tells us. "I have over 20 years of industry experience, which allows me to steer young talent away from some common pitfalls and accelerate their learning and progress. I wish I had that kind of support when I started out! It's definitely a win-win situation for all involved."



Alongside her role at Sony's XDev Studio, Dr Stukoff also sits on the Game Council at Creative Skillset and is a member of both UKIE's Next Gen Industry Advisory Board and the BAFTA Women Advisory Board

Indeed, one of PlayStation First's goals is to raise the relevancy of game education by directly addressing the shortfalls identified in the Livingstone-Hope Skills Review. "For years the industry has complained that graduates aren't skilled enough," says Stukoff. "PlayStation First is addressing this head on, making a significant impact for studio-ready grads on our platform, and helping to promote our UK game industry as a creative and exciting career option."

This means looking beyond university level, so PlayStation First also maintains close links with government agencies and industry bodies such as Creative Skillset, UKIE and TIGA. Since effective education starts early, it looks to support primary and secondary school teachers as well.

"The aim is to get young kids to unleash their creativity using PlayStation in the classroom," says Stukoff. "This talent will ultimately be the generation who will shape the future of the UK videogame industry, and engaging with schools means we have a hand in actively shaping the future of game development education."

The initiative also works with game groups at BAFTA and sponsors the Young



PS4 has already proven its indie credentials, and PlayStation First provides greater access by offering discounted dev kits to all the universities involved



The group travels extensively to ensure that every student working with PlayStation First gets the chance to meet them and benefit from one-to-one time to discuss project ideas

Game Designer awards. And it recently partnered with the Prince's Trust to host a series of Get Started With Game Design programmes across Liverpool and London.

"We continually strive to provide a unique insight into the UK game industry, and to inspire young people to consider game development as a future career path," Stukoff continues. "And programmes like the Prince's Trust one make it possible for the youngest and newest of creators to have a dialogue with PlayStation."

At an undergraduate level, PlayStation First reflects a growing trend of universities trying to simulate the realities of working in a development studio during a degree. Flick through the university profiles in the pages ahead and you'll find lecturers talking up the need to expose students to professional working environments at the earliest possible opportunity, often with an increased workload as a result. And this in turn has catalysed an increase in onsite business incubators and courses that instil the precepts of entrepreneurialism as well as teaching students to code – all areas Sony's initiative strives to cover, with the added twist that graduates will emerge armed with experience of its hardware.

"WHAT BETTER CALLING CARD IS THERE THAN HAVING YOUR FIRST GAME PUBLISHED ON PLAYSTATION?"

"What better calling card to prospective employers is there than having your first game published on PlayStation?" asks SCEE R&D academic development manager **Luke Savage**, who became part of the PlayStation First team last year. "As an industry, we need new talent [with] fresh ideas. PlayStation First engages talent and teaches the skills to make games on PlayStation, which has an incredible advantage when they graduate."

This experience is all the more relevant given Sony's support for indie developers with PS4 and Vita. While graduates from universities working with PlayStation First will be well equipped to apply for roles at established first- and thirdparty studios, they might equally form part of the next Dennaton Games or Vlambeer. Those PlayStation Plus giveaways don't just make themselves, after all.

"Whether they choose to set up their own company or join an established studio, by having hands-on experience of the hardware, they can prove that they have the chops to get out there," Stukoff says.

And it's a two-way learning experience that can help Sony direct the evolution of both its hardware, and its tools, as Savage explains. "For me, it comes down to one word: inspiration. We want to inspire students to create new games and experiences on PlayStation, to learn their craft on our platforms, and ultimately to thrive in our industry. But equally, we want to be inspired by these students as well, to see what they can come up with on PS Vita and PS4. And that's always the best part of my job – getting to experience what they've created on PlayStation." ■

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Brunel University

Location: Uxbridge, UK

The West London university that covers game design from every conceivable angle

JUSTIN PARSLER
Lecturer, Brunel University
www.brunel.ac.uk

Justin Parsler has been making games professionally since he was 16 years old, and is now a lecturer on Brunel's Games Design course. He is also currently a senior designer for *Who's That Flying?* studio Mediatonic, and his work has been published in a number of academic journals and books. Here, he explains why Brunel's focus is on design above all else.

Talk us through the two game design courses you offer.
We offer a BA (Hons) in Game Design and an MA in Digital Games Theory and Design. Both are now very well established and extremely oversubscribed. The MA is aimed at people from varied backgrounds, but as game education becomes more common the curriculum is slowly changing to account for people who already have a background in games. Both are bespoke game design courses, not repurposed media studies courses; we teach game design in a practical, hands-on way backed up with useful theory. That involves a variety of theoretical perspectives – some art, some programming, some production and some business – but design is where we live.

INDUSTRY ADVICE

Justin Parsler: "First, think about what it is you want to do in the industry. Whatever that is, you need to excel. A games education can really help you do that, but make sure the course is the right one for you. But you need to bring the passion and hard work."



Brunel University is based in Uxbridge, West London. It aims to combine academic rigour with the practical, entrepreneurial and imaginative approach pioneered by its namesake, Isambard Kingdom Brunel

"IT'S GETTING MUCH EASIER TO DEVELOP AND PUBLISH, AND THAT MEANS GAME DESIGN IS ONCE AGAIN ASCENDANT"

The use of the word 'design' can be rather nebulous, especially in education.
Our design focus is unusual: often when courses say 'design' they really mean art or programming and do not teach much about content, context, rules and structure, user experience or pleasure. Our course is taught by people who are good enough to consult at a high level in the industry, or in the case of [Lionhead and Games Workshop co-founder] Steve Jackson, someone who founded the industry! We have a lot of game industry ties, and many, many guest speakers and workshops from industry professionals – and we have a totally amazing, inclusive, passionate student community. We love what we're doing and the whole course is filled with passion and energy!

How does that focus influence the tools you use?
We have always used simple, easily accessible tools; there are plenty of them. Our focus is design, so we want to get past the technical aspects and get on with making games. Unity has made no difference to us: you can publish in almost any software that works. We are looking at teaching it, but our fear is that we end up with a course that teaches Unity, not game design. It's getting *much* easier to develop and publish, and that means game design, rather than programming, is once again ascendant.

Brunel's Game Game lets MA students roleplay at pitching to publishers. Do you have any plans to make it available to undergraduates as well?
The Game Game presently runs only for the MAs, but there are plans to change that. Students have to pitch to industry pros, who then rate the game creatively and financially. Steve Jackson then has them make publishing deals with each other. It helps them pull what they've learnt, and look at development from a practical and financial standpoint. ■

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City University London

Location: London, UK

A university with a strong technical focus and its own incubation space

DR GREG SLABAUGH
Senior lecturer, Computer Science
www.city.ac.uk

DR CHRIS CHILD
Lecturer, Computer Games Technology
www.city.ac.uk

Chris Child began his industry career as lead programmer at *Speed Ball 2: Brutal Deluxe* developer Empire Interactive back in 1996, and has since founded his own studio, Childish Things. He now lectures in Computer Game Technology. **Greg Slabaugh**, meanwhile, is a senior lecturer in Computer Science and started out as lead software developer at Friendly Software. Recently, both were involved in the *Play To Cure: Genes In Space* app, created as part a Cancer Research UK jam.



What game courses do you offer?
Chris Child The postgraduate Computer Games Technology MSc is designed to give students strong technical skills suitable for professional programming roles in the game industry. Students develop specialist knowledge in computer graphics, AI, physics and audio, and learn how to use professional game engines as well as build their own. [They gain] experience in the planning, management and execution of a major game technology project. We also offer an undergraduate Computer Science with Games Technology Bsc (Hons) course, which provides technical game-building skills along with a more general computer science education.

The MSc has a big technical focus, right?
Greg Slabaugh Yes, the course was developed by game industry experts, and teaches the fundamentals of game programming… On the course, students develop a strong portfolio of games and technology demonstrations that showcase their ability and passion as programmers.



City University London prides itself on the importance it places on technical programming, but the institution ensures that its courses keep up to date with all emerging technologies and techniques

Is that backed up by opportunities to gain industry experience?
CC Getting hands-on industry experience is key to our students' career development. We have strong links with videogame companies and help our students to find internships and placements. We also have an extremely successful track record of students finding work in the industry after graduation, with some choosing to start their own companies, others working at indies, and some finding employment with major companies. [Our] alumni are now working as programmers at Rockstar Games, SCEE, Criterion and EA. And whether it's attending a seminar, going to a game jam, or networking at a Tech City event, there's a plethora of activities for students to attend and expand upon what they've learned in the classroom. This year, our students were invited to exclusive pre-launch PS4 events.

"[OUR] ALUMNI ARE NOW WORKING AS PROGRAMMERS AT ROCKSTAR GAMES, SCEE, CRITERION AND ELECTRONIC ARTS"

What other benefits can students expect?
GS The main campus in Clerkenwell is just moments away from Tech City, the third-largest technology startup cluster in the world. We have a designated space there called the Hangout, where startup companies and spinoffs can incubate. Also, we frequently host or participate in game jams – we were a host site for Global Game Jam in January. And being members of TIGA gives our students access to TIGA events, including a recent game jam at Pinewood Studios, where movies such as Skyfall were filmed! ■

INDUSTRY ADVICE
Greg Slabaugh: "[Students need] a strong portfolio of work that showcases their capability and passion as a developer. It's not enough any more to simply have a CV, even if the CV is strong."

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National Film And Television School

Location: Beaconsfield, UK

A course for aspiring innovators at one of the world's most renowned film schools

JON WEINBREN
Head of games design and development
www.nfts.co.uk/games

Jon Weinbren has worked in a variety of roles across film, TV, animation and games. One of his earliest game industry positions was as the dialogue writer for Bullfrog's *Dungeon Keeper 2*, and he's since worked as writer and designer on several projects at EA and elsewhere. Fresh from waving off NFTS's first batch of game graduates, he tells us why the course is already influential.



"NFTS offers more scholarships and bursaries than any other postgraduate institution," says Weinbren, "with a fund of £650,000 to be shared across students on MA programmes, awarded on a means-tested basis"

Tell us about NFTS's masters.

We offer a two-year MA programme in Games Design And Development that runs alongside a range of postgraduate MA and diploma courses across a broad spectrum of film and television specialist disciplines. These include screenwriting, producing, directing, cinematography, sound design, music composition, production design, editing, animation direction, documentary making, television entertainment and digital effects. But the unique thing about the NFTS is how students from each discipline work with each other on set modules and final projects, and the game course is no exception. Over the two years, students are equipped with a comprehensive grounding in game art, animation, design, production and coding.

What's your annual intake?

At the NFTS, there's usually a maximum of eight students per MA specialism, and the Games course operates in the same way. It's the most recent addition to the MA portfolio, with our first intake in January 2012. We've now been through a full cycle and our first few graduates are already out there in the world and making waves. We've forged great relationships with the other specialisms – particularly screenwriters, producers and sound designers, who are also out there with the Games graduates working on real projects in the real world as we speak.

Can you give us some examples of what those alumni are doing?

Bojan Brbora's grad project game, *4pm*, secured development funding for its first episode and will shortly be available on Steam. Working with NFTS screenwriting graduate Stefan Kaday, Bojan has also been awarded £25,000 by the Wellcome Trust to develop a game to complement the Wellcome Collection's forthcoming History Of Forensics exhibition. Albert Bentall, who designed and developed an ethereal riverboat exploration game for Oculus Rift called *Sandman*, has now taken up a key role at Sony London studios.

How has NFTS changed since your course began?

In the past few years since the games course started, there has been an energetic evolution going on. New diploma courses have been launched in areas such as entrepreneurial producing, digital content and formats, and factual entertainment. In addition, I'm pleased to say our presence in the school has made a difference – there's a real interest in games among the other students, and most of the film and television specialists now see games as equally valuable to their culture and career as broadcast and cinema… It's a gratifying culture shift. ■

"BOJAN BRBORA'S GRAD PROJECT GAME, 4PM, SECURED FUNDING FOR ITS FIRST EPISODE AND WILL BE ON STEAM"

INDUSTRY ADVICE

Jon Weinbren: "Be ambitious with your ideas and rigorous in honing your technical and creative skills; be multi-disciplinary in your approach, but specialist in your execution; don't just aim for more of the same, aspire for the new exciting and different; always be looking to expand the possibilities of the games medium and its current reach."

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Falmouth University

Location: Falmouth, UK

Entrepreneurialism is a top priority at this South Coast university

TANYA KRZYWINSKA
Professor, Digital Games
www.falmouth.ac.uk

Professor **Tanya Krzywinska** is a prolific researcher of games, and has published a number of papers and books in the field of screen-based and interactive media fiction. In 2006, she became president of the Digital Games Research Association and is currently developing an interactive fiction game for iPad called *The Witch's Room*. We spend some time with her discussing the importance of flexible degrees, maintaining indie sensibilities, and why Falmouth sees itself more as incubator than school.

INDUSTRY ADVICE

Tanya Krzywinska: "Make playable games with other people and get really good at your specialist area, whether that's art, modelling, animation, design or programming. Generalist skills in games are only useful when accompanied by well-honed, specialist skills, even down to specialising in genres and styles."

Which disciplines do your courses cover?
We offer six specialisms in our BA (Hons) Digital Games: art, animation, audio, design, programming and writing.



"Falmouth is a very lively and creative place, with gorgeous scenery and a great sense of community," says Krzywinska. "There is a thriving game community, including a gaming bar called 8-Bit in town"

So six entry points to the same degree?
Yes. We appear to be setting a trend in contemporary game education by creating an undergraduate course that allows students to specialise in different areas of game development and to bring that specialism to a group where live game development is undertaken. And rather than [as] traditional teachers, we see our role in terms of coaching and mentoring; [it's] an incubation approach to game development within a university context.

"START TO DEVELOP YOUR SPECIALISM AS SOON AS YOU HAVE DECIDED WHICH PATHWAY YOU WISH TO TAKE"

Specialising is key, in your opinion?
Absolutely. You should start to develop your specialism as soon as you have decided which pathway into games you wish to take. Start making games with your friends, play many types of games, be extremely curious about developments that relate to game development and technologies. Be open to learning and play around with new software, but above all make games by specialising in the area you want to work in!

As an indie developer yourself, how do you feel about the label these days?
It's more relevant than ever. Indie games thrive on difference and so the term really does apply here. We believe that students stand a far greater chance of fulfilling their aspiration to work in the industry if they take an entrepreneurial approach to developing their own games. By taking this route, they're likely to develop the type of independence needed to be successful.

Does this prepare them for the realities of working in a large studio, though?
The focused approach we take will also prepare our graduates for work in the traditional game industry, since they'll have developed games together in groups and practised their specialisms to a high degree. Our aim is to ensure that our graduates are talented within recognised skills and have real, published game portfolios that utilise recognised software. Most importantly, they will be able to explore areas of that all-important difference in creative thinking that will make their work stand out!

Have tools such as Unity changed the way you go about that?
Yes – we're now able to move away from making 'sketches' of games in 2D game engines to having the scope to make far more complex and potentially saleable games in whatever dimension! ■

IN ASSOCIATION WITH



Bournemouth University

Location: Bournemouth, UK

This research-focused university puts emphasis on technical ability and industry ties

DR CHRISTOS GATZIDIS
Senior lecturer, Creative Technology
www.bournemouth.ac.uk

Along with supervising doctorate students based at studios including SCEE R&D (as part of the Centre For Digital Entertainment), **Dr Christos Gatzidis** carries out R&D work with developers. He's also the co-author of the UDK iOS Game Development Beginner's Guide, and is currently planning a second book, focused on the latest version of Epic's engine.

What do your courses cover?

We currently have three game development-related degrees in the Faculty Of Science And Technology: two undergraduate, which are a BSc in Games Programming and a BSc in Games Technology, and our postgraduate MSc in Computer Games Technology. All are mainly technical programmes in nature, particularly Games Programming, although we do have units on the Games Technology BSc and MSc which are of a more creative nature and cover parts of the pipeline such as level design.



At Bournemouth, particular emphasis is placed on the tools and techniques used for developing games, animation and graphics, offering an in-depth understanding of 3D modelling, graphics, animation and game programming

"STUDENTS SHOULD BE IMMERSED IN AN ACADEMIC ENVIRONMENT THAT BRINGS RESEARCH AND INDUSTRY TOGETHER"

Your courses seem to have a strong research focus.

We believe that academic courses are far more than just a few years of skills training: students should instead be immersed in an academic environment that brings relevant research and industry together. The growth, year on year, in applications for our games courses means we must be doing something right!

In that case, you must work closely with the game industry, right?

We do. For example, we have an annual industrial advisory board that companies such as Ubisoft Reflections, Climax Studios, Havok, Natural Motion and others have participated in the past, and we also have regular guest talks. This year we've had a range of developers – from Bohemia Interactive to indies like Born Ready – talking to our students.

You've written about Unreal Engine – does Epic's toolset play a big role on your courses?

We've been using Unreal extensively across all years of Games Technology, and we'll be using version 4 in the next academic year. We don't currently use other engines such as Unity on the courses, although we do have some platform-agnostic units such as Group Project, where Unity was very popular this year.

Does this tally with the resurgence in bedroom coding?

Bedroom coding is great and harks back, particularly in the UK, to the heady days of the 1980s, but we still feel that aspiring developers need formal qualifications and the structure that comes with that to get ahead!

How do you support students who aspire to make a living as indies?

We try to assist them in this as much as we can, for example by providing dedicated and contextualised business units in all of our games dev degrees. Our student teams do well at competitions such as Make Something Unreal and Dare To Be Digital – this shows that there is a strong interest from our students in going indie, and we try to support this constantly and in dynamic ways. ■

INDUSTRY ADVICE

Christos Gatzidis: "Passion and motivation are a must; you'll never get anywhere without these two attributes. Alongside that, you will also need strong technical or artistic skills – depending on which path you choose – to follow – good formal or academic qualifications, experience – such as that gained by a placement, which all our undergraduate degrees have a full year of – and networking contacts."

IN ASSOCIATION WITH



Somerset College Of Arts And Technology

Location: Taunton, UK

This South West England college punches well above its weight

SAM BATTEN
Curriculum area manager, ICT
www.somerset.ac.uk

Based in Taunton, in the heart of South West England, Somerset College may be relatively small, but it's gaining momentum year by year. It has expanded its course offerings over the period the college has been active in games – you can now complete a full degree here without needing to top up elsewhere – and it's built up its available tools and technology at the same time. We speak to **Sam Batten**, the curriculum area manager for ICT for Somerset, about this increasingly popular centre for high-level learning.

INDUSTRY ADVICE
Sam Batten: "Be curious, be proactive, and know your industry!"



As well as finding roles working in established developers and setting up their own studios, graduates from Somerset's various videogame courses have also gone on to work for the BBC, and in special effects

What game-related subjects can be studied at Somerset College?
We have a large and growing cohort of students, from those 16 to 18 year olds studying our Level 2 or Level 3 Diploma programmes in Creative Media Production – which is game development – to our higher education provision of a FdSc in Computer Games Technology and BSc (Hons) top up year in Computer Games Technology. All students are taught by experienced and highly qualified staff in well-resourced classrooms that use up-to-date industry software.

Somerset isn't traditionally thought of as a development hub – how does your work fit into the industry?
Close links with the industry are essential, as well as keeping a very close eye on developments in the gaming community. It is imperative that we know the sector well and are aware of coming trends in order to provide students with the relevant and most appropriate knowledge and skillsets so they can be successful. The guest speakers we invite in to Somerset College from the industry provide excellent opportunities for students and lecturers alike to learn more about the sector, and all of our lecturing staff spend up to five days a year in the industry to ensure that our course is closely aligned with what developers are looking for from a graduate.

> "CLOSE LINKS WITH THE INDUSTRY ARE ESSENTIAL, AS WELL AS KEEPING A VERY CLOSE EYE ON DEVELOPMENTS"

How is this reflected in the tools available to your students?
Our game students have access to a wide range of professional-standard tools, such as Unity Pro, Autodesk products, Adobe products and a range of game engines and mobile app development tools. All are given full instruction as to how to design and develop games utilising these particular tools.

How has the resurgence of bedroom coding influenced your courses?
We offer training for our degree students in developing their professional practice and in enhancing their skills and knowledge if they want to set up their own business or enter the industry on a freelance basis. Past and current students have been involved in setting up and running their own indie development units, and many of our students work on side projects in order to develop their skills. The South West of England is a real hub for micro-developer units and small and medium enterprises relating to the creative industries, and we actively support our students if they wish to pursue this direction as a career. ■

SOMERSET COLLEGE
GET INTO GAMES

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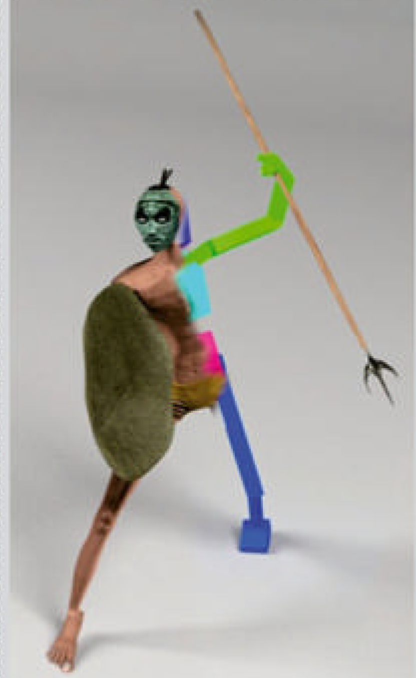
SIGN UP NOW!

REECE MANSER
FdSc Computer Games Technology

I am currently undertaking the final year of my Foundation Degree in Computer Games Technology and I plan to complete the top-up year at Somerset College to graduate with a BSc (Hons) degree.

Before starting this course I was a painter and decorator and had very little experience with technology, or computers in general. My interest was initially sparked by playing video games and I soon developed a passion for creating them as well as assets to be used within games. The tutors here are fantastic and I have rapidly progressed to the point where I am now employed by South West Film. I intend to have an extremely successful career within the gaming industry.

The model/character opposite is the starting point for 'Hunter', a game I am producing. The game will be produced within the Unity game engine and the character developed with a low poly count and compatible bone structure using Autodesk 3D Studio Max and Autodesk Mudbox.





IN ASSOCIATION WITH



Centre For Digital Entertainment

Location: Bath/Bournemouth, UK

This research programme asks its students to solve real problems with UK developers

PROFESSOR PHIL WILLIS
Director, Centre For Digital Entertainment
digital-entertainment.org

INDUSTRY ADVICE
Phil Willis: "Enthusiasm for the industry is needed, but you also need to show you can deliver. You also need a deep understanding of relevant physics, maths and programming. And that's before we talk about the imagination and ability required to bring those skills to bear to solve a problem and make it work in realtime."

Based across Bath and Bournemouth Universities, the Centre For Digital Entertainment gives research students the opportunity to work with UK developers on real problems, quickly gaining industry experience. **Professor Phil Willis** is CDE's director; here he tells us why CDE's unique doctorate – the only one in the UK to place its students with a company for the duration of their research programme – is producing extremely capable graduates.



"With 50 students from five successive annual intakes behind us, we have more experience of this kind of high-end programme than anyone else in the UK," says Willis. "And with 50 more ahead, we're here to stay"

How does your EngD Digital Entertainment course work?
The course funds researchers wanting to complete a doctorate with an applied twist. For that reason the students are called research engineers, or REs. Our REs first have one year's intensive practical training in one of our two universities, almost all of which is project-led learning with little of the traditional lecture-style teaching – this includes masterclasses from our visiting company experts. There are core courses such as computer animation and games, visual effects and machine learning, and a growing emphasis on research as the year unfolds. We currently have 50 REs on the course and have funding for 50 more – it's a big and supportive CDE family!

"THE ENGD SETUP IS UNIQUE – OUR RESEARCH ENGINEERS SPEND THREE YEARS WITH OUR PARTNER COMPANIES"

Research engineers are placed with a company after the first year of training – how does this work?
The setup is unique to the EngD model. REs spend three years in one of our partner companies in the visual effects, games or animation sector, and work on problems that companies want to solve. They learn how the industry works and have access to a comprehensive range of professional development opportunities. We make sure that all of our REs, wherever they are, continue to meet regularly, attend international conferences together and take part in game jams and public presentation events – all the while growing their skills. They'll learn a great deal about the industry and emerge with a CV that no conventional research student can match!

It seems like a very flexible setup.
Absolutely: one of the benefits of our training model is that we're not limited to a fixed syllabus and can respond to new developments. For example, we have just finished running a Unity workshop because the students requested it.

Which companies do you work with?
We work with Electronic Arts, Ninja Theory, Crytek UK, Disney Research and SCEE, among many others. To become involved with us, a company must have a UK research base, must have challenging research problems and have someone who can advise the RE in the company. This is seldom a problem with the UK games industry, which has high technical expectations and a history of pushing research to find practical solutions.

Do you offer funding for the doctorate?
We can offer a generous funding package for a research student, backed by additional money for international travel, attendance at conferences and at other events to suit the individual RE. ■

IN ASSOCIATION WITH



Gamer Camp

Location: Birmingham, UK

Birmingham City University's finishing school simulates your first year in the industry

ZUBY AHMED
Programme director, Gamer Camp
www.bcu.ac.uk/pme/nti/gamercamp

Zuby Ahmed started out as a freelance writer before finding a job at space and flight combat simulator specialist Digital Image Design as a tester. He graduated to level and game designer, and went on to work for Warthog Games and EA, then started his own studio, SmashMouth Games. We spend some time talking about the advantages of working with Sony and squeezing in Magic: The Gathering during lunchtimes.

For those who aren't aware of it, can you explain what Gamer Camp is?
Gamer Camp is a finishing school at Birmingham City University designed by game developers for game developers. We've been [going] since 2009, and have three MA/MSc courses at the New Technology Institute in Birmingham's city centre. Our Gamer Camp: Pro (Video Game Development) course is for artists and programmers, and students will work in development teams to produce PC, iPad, PS4 and Vita games. In 2012, we started our newest MSc course, Gamer Camp: Biz (Video Game Enterprise And Production), which is designed with our industry partners to cater for those looking to work within the business and design side of game development. Finally, we're about to launch our brand new undergraduate programme, Interactive Entertainment, which is a two-year accelerated degree in which students will work in a studio environment within one of three BA/BSc strands: Art, Programming and Digital Marketing.



Industry placements normally last for one month, but Gamer Camp has recently seen studios making requests to keep students for longer, and in some cases going on to hire pupils as soon as they graduate

How does the fact that your courses are designed by game developers manifest itself?
Firstly, the teaching staff here are all gamers and know their subject inside out. They all inject their passion for games into the subjects they teach, and that's really different from so many of the other institutes I've taught at – I've seen people who don't know anything about the game industry teach on game development courses. We're also really fortunate to have lots of industry partners, such as Codemasters, TT Fusion, Crytek and Exient, working with us on our Masters programmes; they've even shown keenness to become involved with our new undergraduate Interactive Entertainment programme. Being part of the Sony Academic Alliance on the Playstation First programme allows us to make content for Sony platforms, which is great for us and the students, since we work really closely with the Sony Academic Alliance managers and PlayStation developers. They provide us with devkits, hardware and even scholarships, and they've currently paired us with Sony London Studio to work on our next product for them, so we get to understand and learn [about] Sony's triple-A approach to game development – the students love this. Gamer Camp was born to simulate a graduate's first year in the industry, ensuring potential new recruits are armed with not just the skills but also the experience required to be dropped straight into a live triple-A project. But we've also got a really strong social culture, and there's lots of gaming at lunch and after work, too. Lots of the students try to beat me at fighting games and at Magic: The Gathering!

> "THE STAFF ALL INJECT THEIR PASSION FOR GAMES INTO THE SUBJECTS THEY TEACH, AND THAT'S REALLY DIFFERENT"

INDUSTRY ADVICE

Zuby Ahmed: "Always consider your goals, remain passionate about them and don't give up, despite all the knockbacks you'll get. Make sure you're doing everything you can to reach your goals, and if that goal is to work in the game industry, then what are you doing right now to help you get there?"

IN ASSOCIATION WITH



University Of Central Lancashire

Location: Preston, UK

A university that wants to instil a broad range of game creation skills in its graduates

BEV BUSH
Course leader, BA (Hons) Games Design
www.uclan.ac.uk

Back in 1994, BA (Hons) Games Design course leader **Bev Bush** joined Traveller's Tales as a 3D modeller. Her credits include *Mickey Mania*, *Crash Bandicoot: The Wrath Of Cortex* and the first two *Lego Star Wars* games. Outside of games, she was also a background artist on UK cartoons Danger Mouse and Count Duckula during her time at Cosgrove Hall Films. Her broad range of experience has influenced UCLan's Games Design degree, and here we discuss what students can expect from it.



UCLan's Games Design space is open plan, with a communal area at one end for group discussions and idea sharing – it's also stocked with a range of both board and videogames to play for inspiration

What does your course cover?
Simply put, the course covers three main areas of activity: drawing and digital painting, which ranges from sketching as an aid to creative thinking and developing initial ideas to the production of finished concept art for publication; digital modelling and game engine workflow covers the game-specific requirements for designing and developing digital assets for games; and, lastly, developing the mechanics, rules and methods by which a game is delivered is covered by game mechanic design.

> "UCLAN'S GAMES DESIGN COURSE IS UNUSUAL IN THAT IT COVERS GAME DESIGN AS WELL AS GAME ART"

It feels like a broad scope.
Yes, UCLan's Games Design course is unusual in that it covers both game design practice and theory, as well as game art and technical skills. Students have a broad experience of these elements in year one and specialise more as their skills develop, so that by third year they have a chance to focus on certain areas of choice.

You've run the course for years now – what's changed in that time?
We've introduced more design for mobile games and are mentoring small groups of students in the development of small and playful projects. I've recently introduced Construct 2 into the curriculum alongside UDK to give students confidence to design games using visual programming, for example… And we continually revise and review the timetable in creative ways to accommodate students so that their learning is current and relevant. The course has gone from a small group with a focus on game theory ten years ago to a large cohort that creates and designs fully playable game levels. We have also seen an increase of female students over the years, several of whom are now working in key roles within the industry.

Do you keep in touch with your old industry colleagues?
Yes, I continue to liaise with my industry colleagues, who are very supportive of the course. And we aim to incorporate industry critique within our feedback and to instil an understanding that visual communication is just as important as verbal communication within the discipline of design. We continue to develop student skills in line with industry requirements and secure live briefs and resources, maintaining the use of creative thinking throughout… For example, the Games Design course has run three live briefs with major companies this year. And two indie companies have been formed from groups of our graduate students in the past few years. Both – WhitePaperGames [*Ether One*] and Lunar Software [*Routine*] – are making very impressive inroads. ■


CREATIVE
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University of Central Lancashire

IN ASSOCIATION WITH



Futureworks School of Media

Location: Manchester, UK

A state-of-the-art media school that covers all aspects of the industry

KEN LAU
Head of Games Department, Futureworks
www.futureworks.co.uk

Manchester's Futureworks School of Media is housed in a bespoke building fitted with industry-standard, state-of-the-art studios and equipment across a range of media specialities. Its game tutors have all worked in the industry, and many are still active – Ben Hill, for example, co-founded *Ether One* studio White Paper Games. We speak to **Ken Lau**, head of Futureworks' games department, about its close involvement with the videogame industry.

INDUSTRY ADVICE
Ken Lau: "Learn how to listen to feedback and act upon it positively. The games industry is very demanding and moves very quickly; knowing how to take feedback is crucial to developing your skills."

You have a wide range of game-related courses – what's on offer?
We offer game courses from foundation level up to undergraduate degrees and beyond, and we cover the full spectrum of game disciplines including design, art, audio, programming, production and animation. Our six courses range from flexible part-time training courses to traditional three-year degrees, and include a Foundation in Game Art, Diploma in Game Development, Diploma in Game Audio, BA (Hons) Games Design, BA (Hons) Game Art and BA (Hons) Digital Animation with Illustration.



Futureworks is housed in a purpose-built building, designed and fitted from scratch, and boasts state-of-the-art studios and high-spec production facilities, with courses delivered by experienced professionals

At 83 per cent, your employment rate is high – what do you think is responsible for that performance?
In 2008 we launched our first game course, seeking advice from the industry to find out what they needed from graduates, and since then, all of our tutors have been industry active, and have worked in many of the UK's major games studios in various roles. A year after we launched, we incubated a small in-house indie startup, which was great because it gave our students the opportunity to observe professionals in action on campus. And we're very active in industry events, often as guest speakers, and you'll find us networking and showcasing staff and student work all over the UK – some of our tutors even have their own development studios.

> "ALL OF OUR COURSE TUTORS HAVE BEEN INDUSTRY ACTIVE, AND HAVE WORKED IN MANY OF THE UK'S MAJOR STUDIOS"

Futureworks also teaches other media courses, such as film and TV. Do game students benefit from this?
Every Futureworks course is delivered by industry professionals, and our team has been involved in a huge amount of commercial releases including feature films, videogames and albums, with sales in the millions. This has built strong links with the industry, which has led to some great guest lectures – and our student noticeboards are overflowing with opportunities for work experience. Futureworks has some of the best equipment in media education in the UK.

Some tutors have their own studios – how does that affect students' ambitions?
Many of our students have formed their own indie startups while others have gone on to work for major players such as Sony, Warner Bros, Chillingo, Hello Games and Matmi. Students today have different expectations and are typically better informed about the game industry when they arrive at Futureworks – in large part due to the great work done by developers such as Mojang and Rovio. ■

IN ASSOCIATION WITH



Hull University

Location: Hull, UK

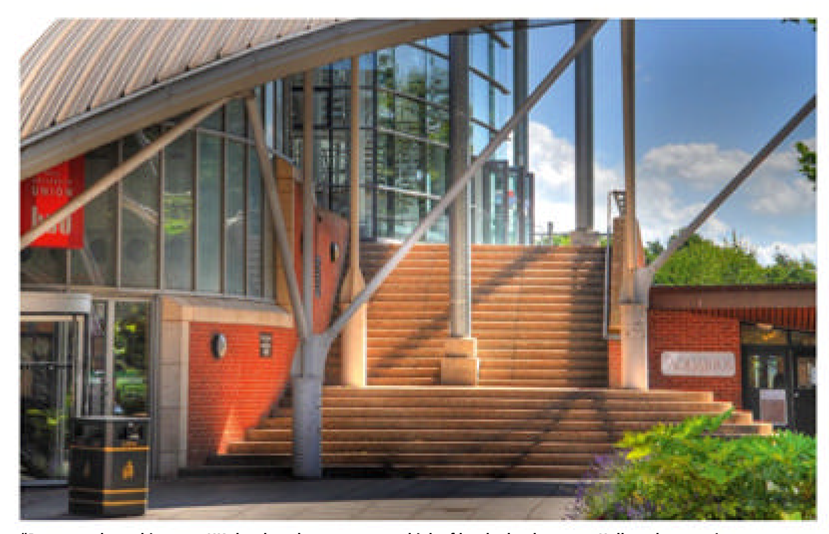
Hull has its own development studio, and prizes programming skill above all else

WARREN VIANT
Senior lecturer, Department of Computer Science
www.hull.ac.uk/dcs

Warren Viant is, he tells us, a big fan of *Arma* and *Eve Online*. That's no surprise, given his background in programming simulation software and creating virtual and augmented environments. He's been involved in the game industry for nearly 20 years and teaching students to program even longer. Here, he takes some time to tell us about Hull's courses and in-house studio.

INDUSTRY ADVICE

Warren Viant: "Specialise. If you want to become a game programmer, then take a course that specialises in videogame programming. If you want to become a 3D artist, look for one that specialises in 3D art. Once enrolled on the course, start building your portfolio online. This is probably the most important tool you have for highlighting your skills to a potential employer."



"Pretty much any big name UK-developed game you can think of has had at least one Hull graduate on its team," Viant tells us, "from *GTAV* to a bunch of top-secret upcoming projects we can't even tell you about"

You offer three programming degrees – what differentiates them?

Our BSc Computer Science With Games Development is a three-year undergraduate programme that focuses on the software development aspects of game creation. Students enrolled on the MEng Computer Science With Games Development, meanwhile, follow the same first three years of study as the BSc, but then complete an additional Masters year, where they study more advanced topics in graphics, AI, physics and programming. In addition, this Masters year provides guaranteed industrial experience. Finally, our MSc Games Programming is a one-year postgraduate programme that allows students to really specialise in games programming. It covers similar topics to the MEng, but includes additional programming opportunities, including a console game developed as part of a team and a summer project.

How have tools such as Unity influenced your courses?

In our courses, we focus more on the complexities of developing game engines from the ground up. Once you understand how to build a game engine, then not only does the use of such tools as Unity become so much easier, but you also know how to get the best out of any engine, because you understand how it works. New tools and better engines are always appearing, but limiting yourself to one technology means the pace of progress can quickly leave you behind. Instead, we design our courses from the perspective that we want our students to understand the fundamentals, to be effective developers who are able to adapt to a rapidly changing industry, or even drive that change by developing engines themselves.

> "THE IMPORTANCE OF SEED IS HARD TO OVERSTATE: STUDENTS ARE EXPOSED TO THE ENTIRE PROJECT LIFECYCLE"

The university has an in-house dev studio called SEED – how does it contribute?

Employers love to see a wider skillset than just being able to code – teamwork, communication, dealing with clients, and even just simple professionalism – and SEED is our solution to this, allowing us to teach valuable employability skills to both undergraduates and postgrads.

What kind of projects do they work on?

SEED has a growing portfolio of successful products, from large projects, such as a new Emergency Service Command & Control system used by many UK fire services, to smaller apps and iPhone games. The importance of the SEED experience and the skills it teaches is hard to overstate – students are exposed to the entire project lifecycle. They meet customers, gather requirements, agree the specifications, develop the software, and finally deliver and install the product. ■

IN ASSOCIATION WITH



Abertay University

Location: Abertay, UK

The home of Dare To Be Digital has a long history within the game industry

PROFESSOR LOUIS NATANSON
Head of Arts, Media & Computer Games
www.abertay.ac.uk

Abertay University is probably best known for its Dare To Be Digital competition, which sees teams of students compete to build games over an eight-week period, before showing their creations at the Dare ProtoPlay festival and competing for a BAFTA Ones To Watch award. We talk to the head of the School Of Arts, Media & Computer Games, **Professor Louis Natanson**, about how Abertay mixes contemporary and traditional techniques.

INDUSTRY ADVICE

Louis Natanson: "Be excellent at what you do, whether it's programming, making art or designing, and stay excellent by challenging yourself to do it better. You also need to be really good at working with others. Games aren't produced by individuals – you need to be able to work and learn from the team. Creative collaboration is essential."

What does your range of courses offer?
Both our BSc Computer Games Technology and BSc Computer Game Applications Development courses concentrate on graphics programming, console development and mobile programming as well as the maths and physics that need to be understood to develop rich and varied computer games on different platforms. We also have the BA Computer Arts which targets game art – character design, 3D modelling and animation and so on, as well as visual art practice where traditional techniques such as drawing are covered. Then at undergraduate level, we have a BA in Game Design & Production Management, and a postgraduate Professional Masters in Games Development degree.



The university has innovative and well-designed facilities, and is highly regarded for its academic performance in areas that have genuine relevance and impact on society and the economy

Do students from the various courses work together in any aspects?
Yes, although we have different courses in games programming, games design and game art, they are taught from the same department and we bring all our students together into mixed-profession teams. Dealing with these courses under the same roof makes us stand out.

> "WE HAVE OVER 50 GAME COMPANIES INVOLVED WITH OUR STUDENTS, GUIDING THE DEVELOPMENT OF WHAT WE TEACH"

Have you seen changes in students' expectations in recent years?
In some places, game education has given students the impression that it is easy and that it's about how good the games are that they make. But talking with our industry partners, I have the sense that what is more important is that students gain deep transferable skills and understand how to work smart and hard.

How closely do you work with studios?
We have over 50 game companies actively involved with our students, from local startup devs to huge companies like Rockstar North and Sony. They help guide the development of what we teach, as well as mentoring students. Abertay has been closely associated with the development of the industry here in Dundee – Dave Jones, who created *Lemmings* and *Grand Theft Auto*, was a student with us. As the industry grew and spread out from Dundee, our relationship with those pioneers helped us understand what was needed for continued growth.

So has your role within the industry changed significantly over the years?
It's important for students to know the fundamentals, but as tools such as Unity have made game-making more accessible that has meant that we challenge our students to be even more imaginative in what they make. Be enterprising, take responsibility for what you are doing, and don't expect to be told what to do. ■

IN ASSOCIATION WITH



Howest University College

Location: Kortrijk, Belgium

Situated in northern Belgium, this institution has a strong international focus

INGE DEFOUR
International officer, Digital Arts And Entertainment
www.howest.be

Voted 'most entrepreneurial institution of higher education in Flanders [Belgium's northern region]' by employers and the government five times in the past eight years, the university college Howest has built a formidable reputation. We talk with **Inge Defour**, international officer for Digital Arts and Entertainment, about Howest's international focus and unique perspective on the videogame industry.

INDUSTRY ADVICE

Inge Defour: "Are you willing to push yourself to and beyond your limits, day after day, throughout your career – not just because somebody tells you to, but because you are absolutely passionate about what you do and realise that this is the only way to make that one top game that stands out among the competition? Wanting to go into the game industry is not about getting yourself a fun job; it's a commitment, something you do because you passionately believe in it."

What makes your Digital Arts And Entertainment BA stand out?
Our students have a unique profile when graduating. Most students still graduate with a traditional arts or programming profile, and this is where our course differs: in close cooperation with the industry, we have created a 'technical artist' profile. After a more holistic orientation year, students can specialise in either Game Development or Game Graphics Production, and over the course of three years they learn all the skills, techniques, principles and insights to create interactive 3D environments.



Howest consists of five campuses in Bruges, Kortrijk and Ostend. Around 6,000 full-time students are enrolled on courses covering a wide range of disciplines, with emphasis on high-quality and practice-oriented courses

"WE FOCUS MUCH MORE ON PRINCIPLES – THE TOOLS SHOULD NEVER BE THE REASON YOU CAN'T DO SOMETHING"

Do you have an international focus all round when it comes to learning?
Absolutely: not only is it taught in English, we also organise loads of international activities, including several international semesters, intensive programmes and summer schools. And Howest is built on a solid national and international network. For instance, every Tuesday afternoon, we organise industry sessions where Belgian and international guest speakers share their thoughts and experiences with the students. This year, the last week of our classes is replaced by an international workshop week with various workshops: Chanel Summers will talk about audio design for games, Daniel Dociu is to give a concept art workshop, and Kim Goossens will teach students about procedural graphics. We co-operate internationally with institutions in the US, Canada, Mexico, every European country, Russia, India and China.

Does your 'technical artist' profile include a heavy focus on tools?
We focus much more on the principles; the tools should never be the reason you can't do something. We try to teach our students that if you know your production pipeline and your part in it, and master your technical and artistic skills up to a high enough level, that the tool you use to complete the job isn't as important. As long as you get the job done. However, it goes without saying that we do use the latest industry tools, software and techniques.

Howest has a reputation for pushing its students pretty hard, right?
Many students don't seem to realise that playing games is totally different from developing games. We expect our students to attend classes for 25 hours a week, and to work at home for another 25 hours. This results in an average workload of 50 hours per week, which includes periods with lots of work and plenty of deadlines, and calmer periods. We try to simulate the reality of game development in the best possible way. ■

IN ASSOCIATION WITH



NHTV Breda University Of Applied Sciences

Location: Breda, The Netherlands

The game school set up by developers to fill a gap in the market

JACCO BIKKER
Associate professor of entertainment technology, NHTV
www.nhtv.nl/ENG/home

Jacco Bikker has a decade of industry experience. NHTV's associate professor of entertainment technology started his career at Lost Boys (the studio that would later spawn *Killzone* creator Guerrilla Games). He was hired after writing to the at-the-time 2D-focused studio to tell the developers that, in no uncertain terms, they needed his 3D engine and expertise. Before joining NHTV, he worked at Vanguard Games and completed his PhD on the topic of ray tracing in realtime games. Here he tells us how NHTV Breda fell into game education.

INDUSTRY ADVICE

Jacco Bikker: "[Your] school projects don't count, any paid job doesn't count – you need to enjoy game dev for what it is, out of intrinsic motivation. People like that will get into the game industry with or without us, but we surely can provide them with a programme that doesn't slow them down."



Through its programming and art course components, NHTV encourages specialisation. But its new indie module acknowledges the broader skills needed for working in smaller studios or as a lone developer

What do your two game degrees entail?
We currently offer two courses: a four-year bachelors programme named International Game Architecture And Design, which has been running for eight years now, and, starting in September, a one-year masters programme, Master Game Technology. Right from the start, we hired industry people with significant experience. We attracted developers from all over the world, which greatly contributed to the international culture of the programme. Obviously, one can only hope that these professionals can also teach, but we decided that actual industry experience should take precedence. So far, this has worked out really well!

> "WE DECIDED INDUSTRY EXPERIENCE SHOULD TAKE PRECEDENCE. SO FAR, THIS HAS WORKED OUT REALLY WELL!"

How does the master differ?
It's a different beast altogether: rather than creating an 'IGAD+', we wanted to have a more high-level program. The master is offered in two variations, Programming and Visual Art. For the visual art students, we focus on technical art, taking into account requests from the game industry: the main topics in the coming years revolve around production efficiency, and so we train people that can build tomorrow's development tools, bridge art and programming, and are able to construct algorithms for procedural art.

How does having industry professionals affect the course?
Initially, the programme started somewhat by accident, when a student and journalist asked the academy director why there was no game school in our region. The same question was presented to the local government, after which the academy director basically said, "Let's do this." We then hired people from Ubisoft, Playlogic, Vanguard and others. Later on, these companies were involved in advisory boards and took on interns. As a result of those early choices, student-teacher relations are great; teachers represent a 'goal' for students and speak the same professional language. And teachers are training students to be people they'd hire. We have extensive networks, too, which is great for guest lectures, internships and jobs.

How has the course evolved?
Eight years ago, we forbade the use of development tools that didn't let you use C++, because we were convinced a good game developer needs to be able to talk to the machine at the lowest level. We still [are], but we now make extensive use of Unity… [though] all technical courses still use C++ exclusively. ■

IN ASSOCIATION WITH



InnoGames

Location: Hamburg, Germany

Meet the German F2P developer looking out for game development talent

CHRISTOPH HILLERMANN
Team lead HR business partner
www.innogames.com

Hamburg-based studio InnoGames has made a name for itself by creating, among other things, hardcore strategy games for browsers and mobile devices. *Tribal Wars* and *Forge Of Empires* have enjoyed success, and the company's portfolio can claim over 110 million registered players. We spend some time with recruitment team leader **Christoph Hillermann** to find out what his company looks for in graduate applicants.

Have you noticed any changes in graduates' expectations in recent years?
I think there have been changes. Today's graduates are more self-confident and therefore have very concrete expectations of what the company or job should offer. That correlates with the stronger need of companies for specific qualifications. Very often, [graduates] are not only looking for a job to earn money for a living, but they still want freedom, room for creativity… and an open working atmosphere.



"We prefer programmes that transfer a huge amount of practical knowledge and don't mainly focus on theory," Hillermann says, while emphasising the importance of lecturers having real industry experience

INDUSTRY ADVICE

Christoph Hillermann: "Be really good at what you do, or at least be passionate about what you want to do. You should have a passion for games and show that you looked deeply into [both] the company and industry."

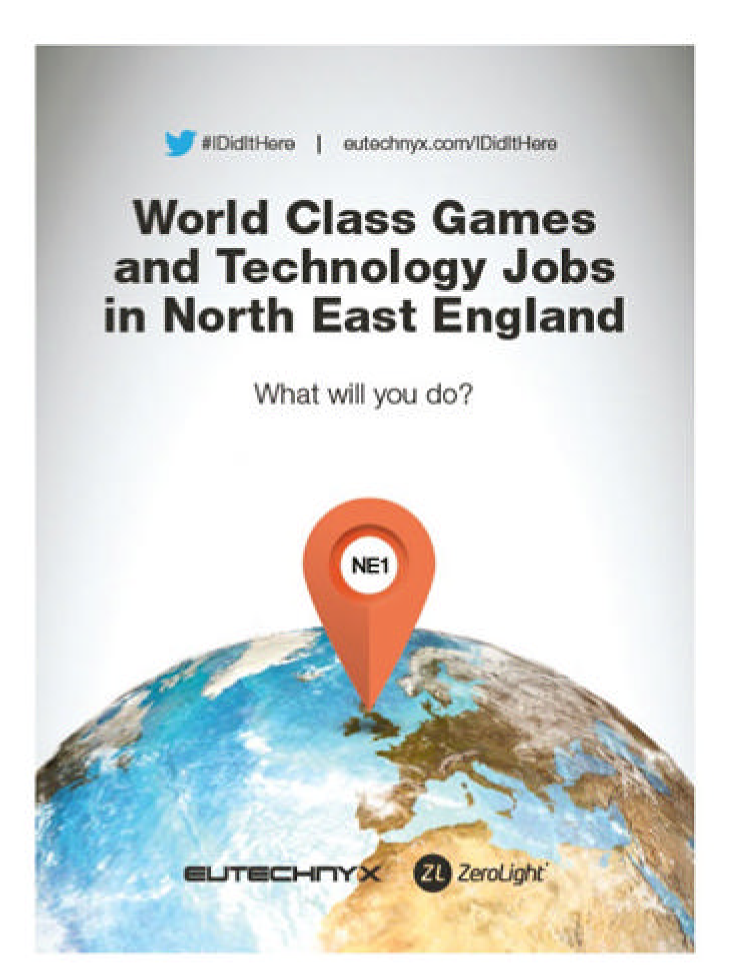
"WE USUALLY PREFER GRADUATES WHO HAVE SOME PRACTICAL EXPERIENCE IN THE FORM OF INTERNSHIPS"

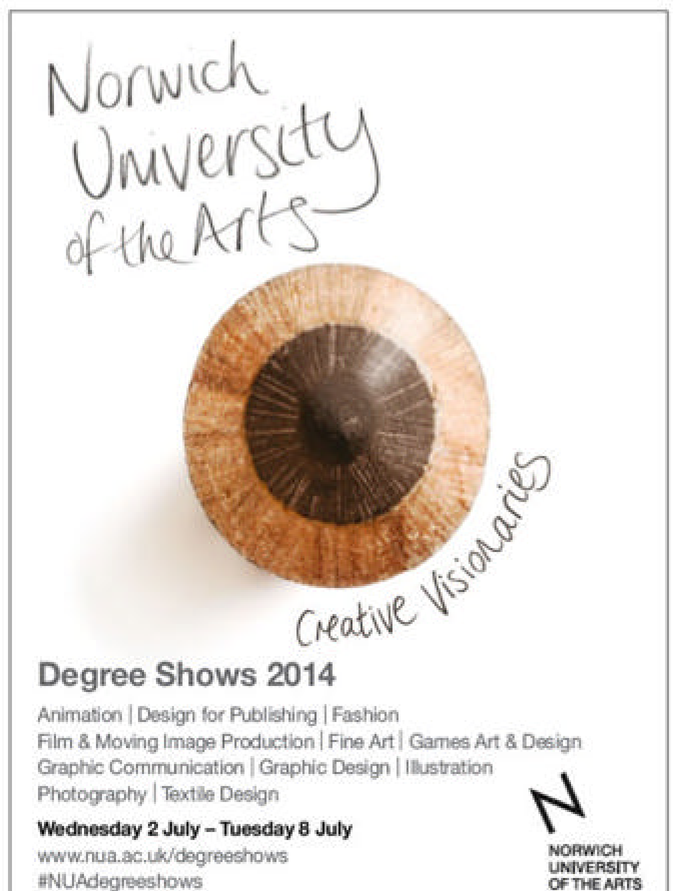
Given all that, do you look for anything different in graduate employees today than you used to?
Since we're not yet an old, established company, perhaps we haven't changed that much. But although they're important, of course, we still look for more than just the best grades! We want candidates who really have the passion for our products, and who have already shown their interest in a specific field in their spare time or as a hobby by programming their own app or simple game, for example. And aside from their technical and professional know-how, we believe that a personal compatibility with the team and/or the company is absolutely essential.

What do you think it takes to make a successful social game?
First, you need a good idea and good people who are able to put that idea into operation… But, as I said before, it might be more important for us to find people who identify with the product to a very strong degree in the future, and who bring lots of love for detail in addition to their technical skills. If anything, classical game development and the way online or free-to-play games are made will become more similar, and for both you need dedicated people.

Do you offer any form of work experience for students?
We are currently offering many different forms of work experience, including internships, dual study programs in various fields, monitoring master degrees and also the classical apprenticeship. We are always looking for talented juniors and graduates, and for this purpose we usually prefer graduates who have some practical experience in the form of internships.

Does InnoGames work closely with universities, then?
Yes, we are working very closely with five universities in different fields, most of them located in Germany. We believe that it's very important to keep an eye on young academics and, of course, we hope to grab the best directly from [education]. We're basically in the starting phase of these partnerships, and planning to expand our collaboration in future. ■

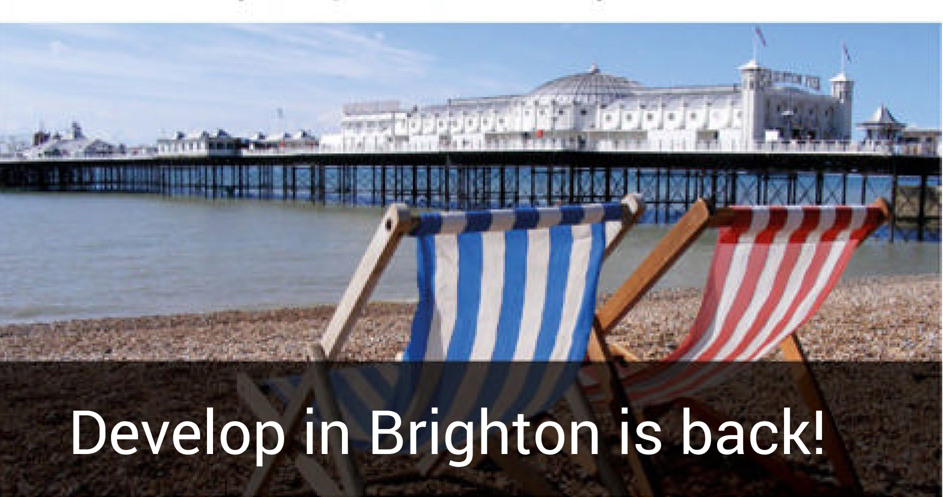

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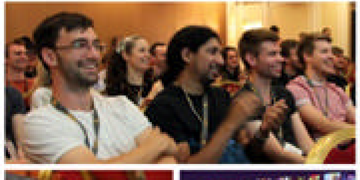

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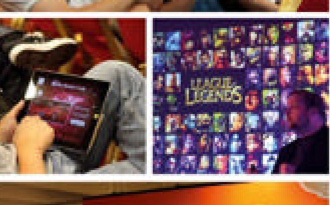
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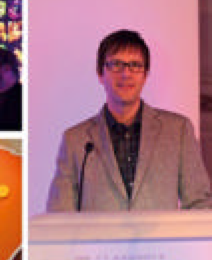












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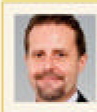
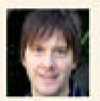
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Opening Keynote
20 Years of PlayStation, 40 Years of Console Games, and 100 Years to Come
Andrew House, President and Group CEO of Sony Computer Entertainment Inc.
Mark Cerny, Lead System Architect for Sony PlayStation 4



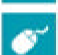

Designing for Virtual Reality
Patrick O'Luanaigh, nDreams


What Second Screens Really Mean
John Conlon, Nickelodeon UK


Bringing Substance and Deeper Experiences to Casual Gamers
Peter Molyneux and Jack Attridge, 22cans


Redefining Alpha
David Braben, Frontier


Super Sleep Fighter II: Hyper Edition
Gavin Strange, Aardman Studios


The You: Designing Tearaway around the Player
Rex Crowle, Media Molecule


Rendering fields of grass using DirectX 11
Richard Kettlewell, Codemasters


Game AI vs Real AI
Richard Evans, Versu


Failing and learning to be an indie
Mike Bithell, Independent


How Publishers Help Indie Devs Tackle the Freemium Conundrum
Ed Rumley, Chillingo


Managing the creative process for a AAA production
Sebastien Ebacher, Ubisoft Montreal


Player Driven Development - 10 ways to leverage your community to give them a better game
Phil Mansell, Jagex Game Studios

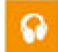

The Business of Designing Games
Jason Avent, Boss Alien


How to Maximise a Games Streaming Potential
Stuart Saw, Twitch

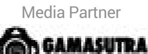

Indie Spirit Under Control
Roberta Lucca, Bossa Studios and Siobhan Reddy, Media Molecule

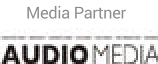

23 Simple Steps for Publishing on PlayStation
Rob Clarke, Curve Digital

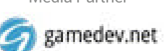

Audio Keynote
Garry Taylor, Sony Computer Entertainment


Total Immersion: Music and Sound in The Chinese Room
Jessica Curry and Dan Pinchbeck, The Chinese Room

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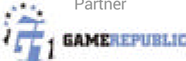


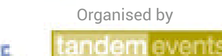
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JAMES LEACH

Postcards From The Clipping Plane

Conveniently ignoring the serious side of videogame development

To a certain extent, developers are people too. This isn't a popular view, but it's backed up by growing amounts of evidence. Like humans, they once emerged from their domiciles, went into further education and then got jobs within global game-making corporations. Here they thrived, put to use for up to 18 hours a day making huge games, which got released every three to four years.

The developers were assimilated into the wider world, a fact that barely registered with the real people there. A few learned to drive cars. And there's at least one anecdotal report of cross-breeding with the general population. The integration persists to this day, only highlighted when games get blamed for real-world violence, or a developer appears on TV and the audience wonders why they seem odd.

Developers do have brains; doctors have confirmed this. But they work differently. They're solution-finding machines. They solve conundrums and invent things. Solutions are vital in their line of work, but elegance is revered. They're engineers, mathematicians and artists, toiling in an abstract space, using languages that to me, after 20 years, still look like a toddler's been at the keyboard.

But the world has changed and now everyone's all about apps, mobile gaming, and web-based entertainment. Some of the developers, having watched this in detached bemusement, are now wondering whether they should be getting involved. It's likely that – after years of leaving their mountain bikes in giant car parks and working in huge buildings with HR departments – some erect shrines to the god Notch, hoping to entice his spirit into their untidy flats. Others apply their creative skills and start inventing apps in the 20 minutes after they get home and before they have to go to bed. And some band together like meerkats and leave their jobs to start new companies.

What all the new game startups have in common is a lack of cash, a largely unsuitable working environment (above a barber's shop or a floor of a crumbling Georgian mansion are popular), and masses of liberated enthusiasm.



I used to work with a guy who, without fail, referred to pounds as 'credits'. The last I heard, he's in prison

Another thing new startups don't lack is ideas. I can think up five great little games I'd love to play and that no one else has done. I'm not boasting, because you can too. And that's just puzzle games. Add in all the other things just begging to be made, such as integrated calendars, location-based helpful things and productivity software (whatever that is), and you'd never run out of great things to code.

The best thing about all this? Nobody else is doing it! Oh, wait. Everybody else is doing it. We're back to the early microcomputer days, when the pages of Popular Computing Weekly and New Computer Express were packed with lists of things you could buy on cassette for £5.95: small ZX Spectrum space games, slightly larger Commodore 64 driving games, and tax planning programs if you had an Amstrad. Nobody had any money to properly advertise these things, but if you did and what you were selling wasn't utterly moribund, you could succeed. Just ask Kevin Toms.

We have returned to those times, and our brave meerkat/developer hybrids are throwing code at great ideas, then throwing those ideas at the app stores. And, yes, the market is there. It's huge. Where once we thought big PC and console games were getting so popular that every man, woman and child was becoming a hardcore gamer, that's changed too. We've reverted to a time when hardcore gamers do exist (and in numbers), but the rest of us are playing tiny games on our phones and iPads.

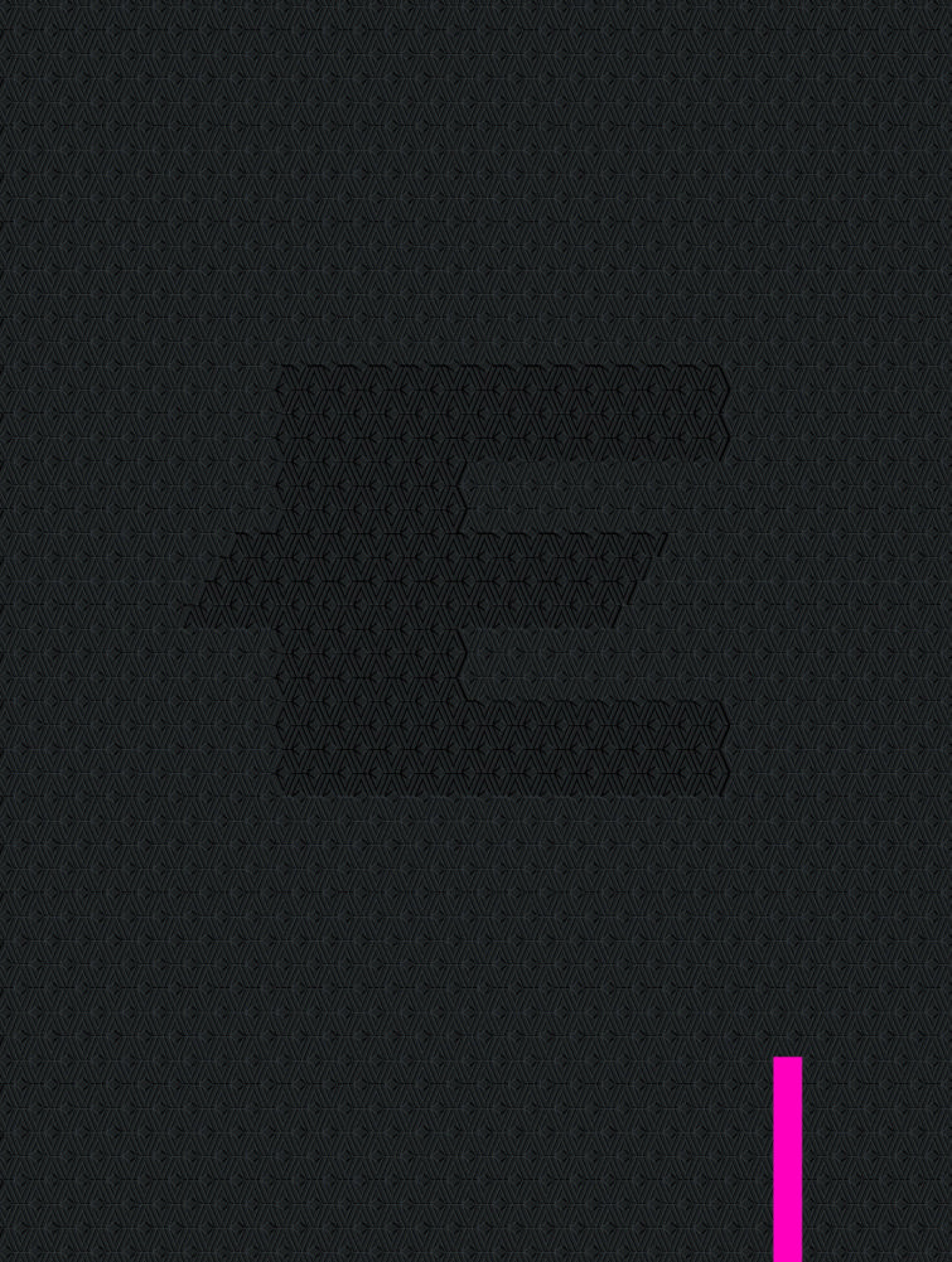
On the whole, the developer meerkats surge on, free of big company meetings, and the fear that someone they worked with and loathed three monoliths ago will be parachuted in as their producer. Life is good, and they don't even worry about money. I used to work with a guy who, without fail, referred to pounds as 'credits'. The last I heard, he's in prison after stealing a link of sausages from a shop.

Then the money runs out. The first three apps, while groundbreaking, were 99p, and who in their right mind would pay that for several hours of puzzling fun? The developers sadly unplug their PCs and that triangular phone conference thing in the meeting room and the CVs go out to the giant corporations again. This time, though, our heroes have added 'Co-founder, Shingoo Entertainment Ltd' to the top. They're not going in as they left – they're looking for much more. These guys are now entrepreneurs. They bring a wealth of new experience to the table. Except it's not a table. It's the same desk they left in 2011. And, yes, that's the same PC they'll be coding endless sequels on. Hello, old friend. Let's see if you take as long to boot up as you used to.

James Leach is a BAFTA Award-winning freelance writer whose work features in games and on television and radio

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